

VRA PROCEDURES MANUAL

SAFETY, SEARCH & RESCUE, AND FIRST AID

FEBRUARY 1994

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ABOUT THIS MANUAL

This manual should be read by all event co-ordinators and significant event helpers. The Competition Manager should ensure that event co-ordinators have access to this manual as part of event preparation. The acting VRA committee should be familiar with the manual's contents.

There is a reasonable amount of information available on topics of safety, search and rescue, and first aid. This manual has combined these topics and discussed them as applicable to the Victorian Rogaining Association.

This manual should be immediately updated if techniques in search & rescue or first aid in particular, are revised. The VRA committee must ensure the manual is kept as current as possible. The manual shall be stored on 3.5 and 5.25 inch disks and rest with the VRA President and/or the VRA Competition Manager. As the manual is available in disk format, revisions should be available with ease. Revisions should only be done with the original author's consent or the VRA Committee's consent.

Valuable sources of information were gathered for this manual from the following books :-

Bushwalking and Mountaineering Leadership (1986), Dept. Sport & Recreation

- * it is worth noting a number of rogainers have completed the BMLCC or STLCC and have sound training in many of the areas that this manual covers
- * it is recommended that the VRA Membership Secretary keeps a register of these individuals and others with appropriate training in safety, search & rescue and first aid

Search & Rescue Manual, (1993), Federation of Victorian Walking Clubs

Land Search Operations, Australian Emergency Manual, (1990), Natural Disaster Organisation

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- | | |
|--------------------|--|
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It is hoped rogainers never need to use some of the information and procedures in this manual. However, being aware of procedures to follow at crucial times will lead (hopefully) to the best possible course of action being undertaken.

SECTION 1: SAFETY

SAFETY IN COURSE SETTING

1. CHECKPOINT PLACEMENT

Checkpoints will not be placed on a feature which could jeopardise a competitor's safety. Course setters owe a duty of care to each competitor and to the best of their ability will place checkpoints in safe locations, without compromising the excitement of rogaining.

Hazardous features include :

- cliffs
- mineshafts
- electric fences
- paddocks with bulls
- unstable man-made features, or natural features (eg: area with high probability of subsidence or collapse with extra weight)
- islands - not all competitors can swim. Islands could be deemed a safe site if accessible by bridge or wading through still water not more than 1m high, or running water knee height or less. Islands may be accessed by boat and advertised as such during event briefing and on the control description list.
- raging rivers
- any other feature that the setter, checker or vetter deems hazardous to competitor safety

* The HH should be situated on high ground or ground unlikely to be flooded .

2. FLAGGING HAZARDS NEAR CONTROLS

As a guide there should be at least 10m minimum distance between the control placement and a hazardous feature. Hazardous features such as mineshafts in the vicinity of a checkpoint should be flagged with durable tape/plastic for the duration of the event, and of course, removed at the completion of the event. It is not suggested to flag every hazardous feature on the course, as this would obviously be next to impossible. Flags should only appear in highly trafficked areas such as those right near controls, or on extremely obvious route choices eg: preferred river crossings.

Preferably hazardous features in the vicinity of a control should be overprinted on premarked maps, and illustrated on master maps in any rogaine. Also on the clue sheet there may be a warning of hazards near controls. eg:

checkpoint 56 The Gully (beware of dangerous mineshaft near control)

* Flagging is secondary to avoiding hazardous areas (as first preference).

Ultimately discretion whether to flag a feature lies with the event setter, checker, vetter or co-ordinator, or even the Competition Manager.

3. STANDARD EVENT WARNING

Competitors are warned on Event Final Instructions, Rules/Guidelines and Event Briefing that the event carries all the risks associated with the Australian bush and farmland and no attempt has been made to identify all or remove any of the hazards in the rogain area.

4. BUS SAFETY

Bus travel is often provided by the VRA to 24hr events to encourage tired competitors not to drive themselves and others home. Bus travel should continue to be available at all 24hr events. 12 hour events running midnight to noon could also consider transport provision.

Buses must be able to safely enter and exit the HH area, so roads must be sufficiently wide, bus turning circles can be met on bends, roads and bridges can bear the weight of a bus with full passenger complement. Make sure no low tree branches or overhead bridges obstruct passage of the bus.

5. EMERGENCY EVACUATION ROUTES

5.1 ROAD

Course setters should note road conditions on the course and mark on the administration Master Map any roads that are:-

- 4wd only
- closed through subsidence or large tree blockage
- too overgrown for travelling on
- new tracks that can be driven on
- too wet and boggy

5.2 HELICOPTER LANDING SITES

Course setters, checkers and veters should identify suitable areas in which helicopters could land and mark these on the administration Master Map. These sites shall meet the following requirements :

- be a cleared area of 40m diameter (maybe less if air is still). If the only cleared area on the map is a farmer's paddock, ask for his permission to use his field as a designated helicopter land site should an emergency arise (stock may have to be moved)
- be preferably level land, but not essential

You should :

- give pilot an indication of wind direction and strength by holding up a brightly coloured large cloth such as a ground sheet or coat
- if possible send pilot radio information on wind direction and speed, and temperature
- wait for instructions from the pilot before approaching a helicopter

* helicopters are ideal for searching and evacuating, except in poor weather

* helicopters are dangerous if approached from the wrong direction. Make sure pilot can see you and others in his field of vision 10-2 o'clock. Approach helicopter from the low side to ensure maximum clearance under the main rotor. Do not go anywhere near rotors that are operating, and beware of carrying objects higher than your head.

* Approach helicopter in a crouched manner, do NOT run, carry stretchers below waist level

* Be prepared for the downdraft associated with helicopter landings, secure all loose and light items. If caps etc. fly off, don't fetch them until it is safe to do so. If you have a hypothermic casualty, place on extra blankets and buffett from the wind as much as possible. Secure or clear the area of any potential debris that may become airborne.

COURSE SAFETY IN EVENT OF NATURAL DISASTER

1. EVENT CANCELLATION DUE TO THREAT OF FIRE OR FLOOD

Event co-ordinators and helpers shall at all times be prepared to help evacuate the course and cancel the event should a threat such as bushfire or flash flood occur. If it is likely that the course area be subject to fire or flood or any potentially life threatening disaster, then the event co-ordinator and competition manager can see fit to reschedule the rogaine for a safer weekend in the year. It is a requirement that Event Co-ordinators shall notify local police before the event and know the location of the nearest available hospital and doctor.

The direct way to notify emergency services is through D24 Police 11444 or 000. Event co-ordinators will obey instructions from the police and combatting authorities who for fire are the Country Fire Authority (CFA), Conservation & Natural Resources (CNR), and for flood Victorian State Emergency Service (VicSES)

2. BUSHFIRE

The bushfire season in SE Australia extends from late November until early April. A number of rogaines are run over this period. Events are run on days of total fire ban but of course no fire is permitted at the HH or anywhere else on the course. If uncontrolled fires rage anywhere on the course or within 100km of the course the rogaine should be postponed and rescheduled. For extensive uncontrolled fires in excess of 100km from the course area, the Event Co-ordinator should contact fire combatting authorities to request their advice on whether the event should still be run.

Blow-up fires can occur when weather conditions are dangerous. If rogaines are held on days with the following weather patterns, competitors will be issued with a 'bushfire action' sheet available at administration (an example is included in the appendices of this document). This sheet lists what competitors should do if bushfire threatens.

Weather patterns on 'blow-up' days:-

air temperature 26 degrees or more
wind speed 30 kph to 70 kph in gusts
wind direction west-north/west
previous dry spell or drought lasting some 6 weeks
humidity low, less than 15%-20%

Other factors :-

vegetation type, dryness and denseness
slope and topography

Some bushfire patterns :

- the speed of the fire approaching may be in excess of 100 kph
- the front may extend 3-5km or more
- spot fires from air borne embers may be ignited up to 30 km away from the fire front
- fire burns much more quickly uphill than downhill or on the flat. Never try to outrun a fire uphill.

CFA, CNR and other fire fighting crews may establish fire breaks in advance of a fire, don't get caught between the two

CFA, CNR and other fire fighting crews will patrol vehicular tracks if they know people are in the area. Travel on tracks when possible.

What kills people in bushfires?

1. panic : uses extra energy and clouds judgement
2. radiant heat : leads to heat stroke
3. asphyxiation : severe smoke inhalation
4. dehydration

5. flames

Beware of:

1. burnt trees and structures fall easily
2. fallen fences may be electrified. Avoid power lines

2.1 WHAT ADMINISTRATION DOES IN THE EVENT OF FIRE ON OR NEAR THE ROGAINE COURSE

1. Contact emergency services D24 Police (combating authority CFA, CNR). Report if possible the area of fire, extent of fire, wind direction, smoke patterns eg: billowing columns, low lying, still. Inform D24 of predicament with approximate number of competitors out on the course. Appropriate manpower, vehicles, communication and equipment can then be sent.

Teams should make their way to the nearest road 2wd or 4wd track as travel will be a lot quicker on track than through bush, also emergency service workers will be able to collect teams more easily.

2. Administration should remain at the HH site and be prepared to quickly and efficiently mark off incoming teams and keep count of how many teams are still on the course. Incoming teams can be directed by emergency services to exit the area via a safe road route. The emergency services will do road patrols for rogainers who haven't returned to HH. The emergency services will have very good communications, vehicles and safety equipment as well as experience in dealing with emergencies and searches.

3. It is highly unlikely VRA members will be expected to actively search for competitors during a bushfire, but may be required to provide the following:

- maps for emergency personnel (point out map inaccuracies where possible)
- advice on numbers still out on course
- advice on team constitution XNJ = 4 novice juniors, age 14-16, 2F, 2M
- may be able to provide emergency service personnel with food and water
- can provide any navigation information such as likely route choices between controls
- can provide information on road conditions, new tracks, unmarked tracks, overgrown tracks, blocked tracks (eg: subsidence of track, large tree over track ...)
- can notify CFA crews where dams, lakes and rivers are
- can identify good helicopter landing sites
- first aid

2.2 SPECIAL FIRST AID IN BUSHFIRES

First Aid may be taken over by Emergency Services but in the meantime, be prepared to assist with any first aid treatment such as smoke in eyes, sore throat, burns (partial and full thickness), asphyxiation, smoke inhalation, heat cramps, heat exhaustion, heat stroke, dehydration and shock.

The VRA first aid kit should have sufficient stock of gauze, eye pads, sterile water, fluid and energy replacements eg: Staminade and Gastrolyte, scissors, adhesive strapping and Butesin Pictrate for superficial burns only. If unfamiliar with treating burns, cool clean water is best, and watch for signs of overcooling the casualty.

Serious burns include those to the face, hands, groin, armpits, airway, full thickness burns and those covering 15% or more of body area. Burnt areas must be kept meticulously clean as the risk of infection is great - particularly in bush settings like rogaines.

Smoke in eyes may cause temporary blindness and ulceration, irrigate with sterile water until pain is relieved, and depending on severity, cover eyes with eye pads to prevent further damage.

2.3 COMPETITOR ACTION SHEET

This sheet is to be issued to competitors on fire blow-up days.

1. If fire is sighted or smelt, return to HH via vehicular track and report fire to administration immediately. Note fire extent, direction of wind and smoke patterns.
2. If fire is between you and HH seek alternative shelter
3. Places to shelter
 - rivers, dams,
 - caves, mines
 - dugouts, bury yourself in the ground if necessary
 - a rut, hollow, rocky area and clear away as much vegetation as possible
 - areas which have sparse tree canopy
 - areas which have already been burnt
 - farmhouses or towns (which should have telephone communication)

* fire travels fastest uphill, so shelter on the downhill side of a log or if possible in a gully

* be prepared to share your shelter with bush animals and reptiles
4. If you have clothing which is woollen, thick and layered with tight weave in fabric, put it on. Clothing worn by rogainers however, particularly in summer is only light cotton or nylon which is highly flammable and may fuse to the skin if burnt.
5. Cover face with damp cloth and breath through this
6. Hydrate as much as possible, ensure you have adequate water supply before and after fire has passed
7. If you are absolutely trapped and you (for some reason) cannot shelter and must pass through flames, do so when flames are no higher than hip height, cover entire body especially face, and only go through if you can see through to safety on the other side.
8. Once fire has passed, gather your faculties, render first aid, drink and seek out emergency service workers or help. Once you are safe register with police, CFA, CNR or VRA admin. (if still in the area)

3. FLOOD

Floods can be caused by heavy rainfall in the upper catchments feeding the rogain course area. Flash flooding may occur with heavy rainfall in the days leading up to the rogain. Major dam wall bursts are extremely unlikely, but obviously would cause flash flooding also.

Floods may cause less alarm than bushfires because they eventuate more slowly, may be predictable, and people are more likely not to panic. If flooding threatens the following procedures apply:-

1. HH to notify emergency services of flash floods - Police D24, combating authority VicSES
2. competitors should avoid swollen rivers, lowlands, areas downstream of rivers, creeks
3. competitors make their way to HH via high ground and/or tracks
4. competitors leave (evacuate) area as requested by emergency service personnel
5. VRA admin remain on site as requested

(pack up HH tents, especially if in flood prone area, and have event crew ready to evacuate if advised to do so by emergency personnel)

When planning for an event, ensure HH is on high ground, or ground unlikely to be waterlogged with heavy rains or broken river banks.

4. EXTREMES OF WEATHER

HEAT : Rogaines can be held in hot weather. Competitors are more at risk from heat exhaustion and possibly heat stroke. The event co-ordinator must ensure there are adequate number of and adequately maintained water drops on course, and pre-event, advise competitors to take 1L - 2L of water each.

COLD : Rogaines can be held in cold weather. Hypothermia is always a risk for rogainers, particularly young, inexperienced competitors who have insufficient clothing and who stay out for the night. If weather is very cold, administration can chose to step up course patrolling to see if any teams are in trouble.

BLIZZARD : Snogaines should be cancelled if the weather in the alpine region is a blizzard. Extreme cold, wind and sleet can produce hypothermia in individuals inspite of appropriate warm clothing. As the VRA owes a duty of care to participants in its events, it would be foolhardy to allow a snogaine to proceed with VRA endorsement in appalling weather conditions. Either the snogaine gets rescheduled, or cancelled and event fee is refunded. Where appropriate ski patrol staff can be asked to advise on weather conditions, and whether they think the event should proceed.

SECTION 2: SEARCH AND RESCUE

Teams who have not returned to the HH within 30 minutes after the event are disqualified. There may be simple reasons for lateness such as overestimating travel time and distance, or a team member may become excessively fatigued and has decided to wait at a water drop and be collected by event helpers.

Late teams however could be late for a more serious reason such as injury to one or more team-members, and/or team is lost on the course, or team has strayed from the course map into land off the course.

Injury preventing teams returning to the HH on time could range from sprained ankle to unconsciousness. It is important to start searching for missing teams as soon as possible, and to do so in a thorough and logical manner.

ADMIN: at least one member to remain at administration to oversee the search as the Search Co-ordinator. The member need not necessarily be the Event Co-ordinator. Rogainers with previous professional or other experience in search co-ordination should notify the Event Co-ordinator of their skill as they may be well utilised and be appointed in control of the search until the team is found or until relieved. The member should have excellent communication skills and organisational skills. He/she will appreciate the limitations of time and manpower the VRA can provide, and will arrange for additional search and rescue groups to be called in when appropriate.

It should be remembered VRA searchers are probably very tired already if they have just completed a rogaine, or if they have been helping for many hours without sleep. If weather conditions are bad, eg: heavy fog, nightfall, the search may be delayed for safety of search members.

Procedure if team is late:

1. Admin identifies that team is missing and checks that their scorecard has not been misplaced.

2. Check HH environs (elapsed time : 00:45-01:15)

- announcement for missing team to determine if they have been seen at the HH
- check for car number plates; if car cannot be found, then phone team contact to see if team has returned home

3. Road Patrol (elapsed time : 01:15-ongoing)

- 2wd and 4wd road patrol
- check water drops & pubs!
- maintain road patrol and check intention sheets at strategic checkpoints for the missing team
- depending on weather conditions, if the team is not found after 1-2 hours of road patrols, then commence searching the course on foot using the intention sheets as a guide

3.1 Organise volunteers for course search

Volunteers will pair up in teams of two

Volunteers will be fit and alert

Volunteers will be well fed before commencing search

Volunteers will be well equipped with clothing and equipment such as torch, whistle, first aid, survival blanket, extra food & water

Volunteers will be proven good navigators with rogaing experience

Volunteers are able to spare the time to search either until missing team is found or until they are relieved by other searchers

It is highly desirable that at least one volunteer per search team/pair will have knowledge of first aid and/or carry first aid manual

Volunteers will obey commands of search co-ordinator(s)

The search co-ordinator shall keep a record of all searchers and their allocated area. All searchers must be accounted for at all times until the search is officially called off.

- 3.2. Investigate possible route choices (elapsed time 02:00-ongoing)
- check intention sheets to detect possible route, send searchers in cars to visit controls near HH and then branch out north, south, east and west of HH. Allow 1 hour for this 'quick' checking of controls/intention sheets, then all searchers report back.
 - pinpoint last known visit to checkpoint and concentrate search in this area (see 5) but
 - realise team may have lost pencil and not written on intention sheet
 - team may not have found control

4. ** At 04:00 elapsed search time, police should be alerted. Whether they act immediately is up to them. Meanwhile VRA continue to narrow search area down.

5. Identify last area of the course the team was reported in (from intention sheets) and concentrate the search here (elapsed time 02:00-06:00)
start a FEATURE SEARCH radiating from last known location.

"A FEATURE SEARCH is a search that covers areas and lines of high probability. It is usually performed by teams of four moving along well defined terrain features such as ridges and creeks. The team members are usually widely separated across the terrain feature and call as they go.

Reasons for calling: 1) to maintain contact between team members who may be widely separated, and 2) to attract attention of lost team." Search and Rescue Manual FVWC

5.1 When planning for a feature search, ascertain possible route choices from intention sheet information. Realise the missing team may have:

- had several route choices to the next control
- not found control, gone on to another control
- decided to not get control and headed to another nearby control
- had an accident on the way that impeded progress to control
- lost pencil and did not record visits to any more controls (problem !)
- strayed off the map (Is search area close to map edge?)

5.2 Select a rendezvous place and time for search teams to meet after the feature search Consider moving an advance base camp nearer to the action. A reasonable road near the last known control or the next intended control would be ideal.

5.3. At this stage, if the search has been going for more than 4-6 hours (time limit) the search organiser is faced with the decision to do one or more of:

- extending the feature search
- commencing a LINE SEARCH if no better alternative is apparent
- calling off the VRA's effort, and contacting police and emergency services for assistance
- giving VRA searchers a rest and then continuing

6. When team is found:

- (a) immediately report to base team found, and whistle to nearby search teams for assistance
- (b) note what condition members are in & whether they require evacuation by helicopter, stretcher or professional foot rescue team. Look especially for signs of hypothermia and exhaustion, amid more obvious injuries
- (c) render first aid, reassurance, and if group are fit & well (ie: no injuries, they were only lost) walk them out to nearest vehicle for return to HH/search base camp.
- (d) if a team member is found presumably dead, carry out extensive checks for signs of life. Severely hypothermic people may appear dead. It is not the job of VRA searchers to pronounce or presume a person to be dead. Protect the body from the elements and animals but try not to move it too much. Look after other team member(s). Try to gather some information as to what happened, but don't probe too deeply if it is too distressing for other team member(s). Seek police and medical help.
- (e) if VRA searcher is distressed after a search, particularly after finding persons with severe injuries or dead people, police and medical crews can advise on counselling if necessary.

** If lost team is not found after elapsed time of 6 hours, police should be contacted again and requested to organise a formal search in the area. Again the lost team's contact phone numbers should be called to ensure they have not returned home. Police may call in local police, police Search & Rescue Squad, SES and the Federation of Victorian Walking Clubs. Police can provide excellent HF communications, 4wds, search & rescue equipment such as special stretchers, ropes and helicopters for aerial reconnaissance of the course area and area adjacent to the map.

6.1 VRA searchers should be relieved after 4-6hrs of searching because :-

- VRA searchers have poor communication with each other and base which can make searching inefficient
- road patrols have been continuing for 4-6 hours and will eventually run out of petrol
- VRA manpower can be insufficient to conduct line searching properly
- VRA search members will be getting tired after 4-6 hours

7. The VRA searchers will remain at the HH or in the field until instructed to leave by Police (or if exhausted or injured). Once Police arrive they take over search responsibilities and may restructure the organisation of the search.

8. The VRA searchers will provide all information on the search conducted to date, the composition and experience of the team, maps for police, SES and FVWC searchers, likely route choices, dangers in the area (eg: mineshafts), and any known medical problems of the missing team. If not already done, the search 'base' may be shifted from the HH site into the field. HH equipment should be packed and moved as per usual for finale of events, with the exception of water, food and first aid kit.

9. Time guideline for notifying police:

Event	Initial call	Approximate response time
6hr event 10-4pm	call police by 7.30-8.00pm	dawn? 5am-6am
12hr event 12pm-12am	call police by 3.00-4.00am	dawn? 5am-6am
24hr event 12pm-12pm	call police by 3.00-4.00pm	before dusk 5pm-6pm

* 8hr within 24hr / 12pm-8pm, Police can be called after usual time elapse, however advised to not respond until specifically requested. 8hr competitors often wander back during 8/24hr events. Event co-ordinators should warn competitors in 8hr events that unless they return within designated time, search procedures will be instigated. Search procedures 1-3 as listed above will be conducted. An advantage of lost/injured teams in 8hr, is that 24hr competitors are still on the course and may hear distress signals and act upon them.

SECTION 3: FIRST AID

1. VRA PROVISION OF FIRST AIDERS

For some years the VRA have subsidised First Aid training of members, and so finding First Aiders to help at events should not be difficult.

It is recommended that:

For up to 150 competitors there be 1 First Aider.
For up to 300 competitors there be 1-2 First Aiders.

The designated event First Aiders may be involved in tasks other than First Aid, however they shall make themselves completely available in the event of any first aid situation arising.

The event First Aider will know where the closest hospital or Doctor is, and approximate travel time to get there.

2. FIRST AID OFFICER REQUIREMENTS

* The minimum requirement is a level 1 First Aid certificate through a recognised First Aid Training Group such as St John Ambulance, Red Cross, Metropolitan Ambulance Service. Training in Remote Area First Aid is an advantage.

* The First Aid Certificate must be **current**. It must be a full certificate. CPR certificates only are not satisfactory.

* The First Aid Officer will obey instructions from qualified Nurses, qualified Ambulance Officers, and qualified Medical Practitioners, or more qualified First Aiders (eg: level 2, level 3).

* Qualified health professionals such as Medical Practitioners, Registered Nurses and Ambulance Officers may be First Aid Officers at events. (No need to hold a current first aid certificate).

* Before the commencement of the event the First Aid Officer should make themselves familiar with the contents of the VRA First Aid Box. The First Aid Box key shall be kept with the Box at all times.

* At the completion of the event, the First Aid Officer will note any equipment used, and advise the Event Co-ordinator, who will then in turn advise the VRA Equipment Officer whose job it is to keep supplies of stock current.

* The First Aid Officer when rendering treatment may like to keep a written record of the treatment given. In the event of an injury requiring that the casualty's vital signs be monitored, the First Aider will keep a written record for handover to medical teams, and should keep a copy of those records for themselves.

3. COMPETITOR FIRST AID SHEET

Competitors are issued with a basic first aid sheet outlining first aid procedures. This sheet must be carried with all teams. A copy of the sheet (current at October 1993) is attached in the appendices of this manual.

Each team must have a minimum first aid kit with them at all times during the rogaine. Failure to carry one kit per team is grounds for disqualification. The kit must contain (as a bare minimum) :

- 2 roller bandages
- 1 triangular bandage
- sticking plaster
- VRA First Aid Sheet

4. FIRST AID KIT STOCK

The VRA First kit or box should contain the equivalent stock of the St John Ambulance First Aid kits for Outdoor Activities Kit and Sports Kit, and any other necessary stock as deemed necessary.

- 1 gastrolyte 10x4.9g sachets (fluid & electrolyte replacement- not for diabetics)
- 2 20cm x 7.5cm wound dressings, non-adherent and double sided
- 4 10cm x 7.5cm wound dressings, non-adherent and double sided
- 1 7.5cm elastic dressing
- 1 pkt 50 adhesive strips
- 1 pkt 10 knuckle strips
- 1 pkt 6 wound closures
- 1 burns dressing
- 4 eye pads
- 4+ 10cm heavy crepe bandage (soft tissue injury, snake bite)
- 1 2.5cm adhesive tape
- 1 5cm leukosilk adhesive tape
- 2 9cmx10cm combine dressings (for large wounds)
- 2 20cmx20cm combine dressings (for large wounds)
- 1 7.5cm adhesive elastic strapping (rigid strapping, joint strapping)
- 1 sports tape
- 1 underwrap (used under elastic strapping)
- 3 triangular bandages
- 1 savlon liquid 250ml (wound cleaning)
- 5 10cm x 10cm x 5cm gauze swabs (wound cleaning)
- 1 plastic forceps (to hold swabs)
- 1pr stainless steel forceps (removing fine foreign bodies)
- 1 splinter probe (removing fine foreign bodies)
- 1 kidney dish
- 1 gallipot (wound cleaning & to hold diluted antiseptic)
- 1 antiseptic soap (cleaning hands before and after treatment)
- 1 disposable towels (6) general cleaning other than wounds
- 1 nail brush
- 1 15cm conforming bandage
- 2 10 cm conforming bandages
- 1 pr lister strapping scissors (to remove strapping)
- 1 scissors sharp/blunt (to cut dressings/bandages)
- 12 safety pins in container
- 1 50g cotton wool (padding for splinting)
- 1 foam pad (for cushioning and blister protection)
- 1 re-useable cold pack (reduces bruising and swelling)
- 1 pen light torch (check pupil reaction)
- 16 alcohol swabs (cleaning areas surrounding wounds)
- 1 disposable gloves (assists preventing cross infection)
- 1 pkt paracetamol 500mg
- 1 thermo blanket (to prevent loss of body heat)
- 1 note pad and pencil (for casualty notes)
- 1 first aid manual
- 1 30ml saline (eye irrigation)
- 1 betadine 25ml

- 1 dermocaïne cream or stingose (for itchy bites, stings, hives)
- 1 oill of cloves 5ml + zinc oxide powder (toothaches & cavities)
- 1 friars balsam 15ml (for blisters, leech bites)
- 1 vaseline (small jar)
- 1 SPF 15+ water/perspiration repellent
- 1 pkt sore throat lozenges eg: strepsil

* recommended purchase (1994) and addition to VRA First Aid Kit

- 1 adult size leg air splint
- 1 adult standard size stiff neck cervical collar

** optional equipment

- 1 thermometer to measure below 35 degrees
- 1 folding stretcher and straps

The First Aid Officer must write down and give to the Event Co-ordinator

- a list of any stock used and the quantity
- dispose of stock and medicines after the use-by date and report
- a list of first aid treatment given (to keep track of what first aid is given during events)

The first aid officer may only offer drugs such as paracetamol at the recommended dose, if the casualty requests them.

5. FIRST AID 'STRETCHER' / HELICOPTER CASES

The illnesses/injuries listed below should be regarded as serious with evacuation by stretcher (VRA) to awaiting vehicle or by a professional rescue team (Ambulance, Police, SES, ...) to the nearest hospital or Doctor or by Air Ambulance Helicopter. Many of the conditions below are life threatening. Evacuation should be as rapid as feasible without worsening the problem (for example, do not get a snakebite victim to walk to road transport).

- spinal/neck injuries, especially with suspected fracture
- * casualty falling from heights greater than 3-4m
- head injuries, especially with loss of consciousness (L.O.C.)
- pelvic injuries (susp. fracture)
- * casualties with penetrating injury to head, neck, chest, abdomen, pelvis or groin
- * casualties with significant injuries to head, neck, chest, abdomen or pelvis
- * casualties with injuries in at least 2 of the regions mentioned above
- * casualties with two or more proximal long bone fractures
- lower limb injuries (which prevent walking)
- abdominal injuries/emergencies
- chest injuries (esp. those which compromise breathing, respiratory arrest)
- * snakebite
- hypothermia
- * hyperthermia
- suspected cardiac conditions
- diabetic emergencies
- * severe asthma attack
- severe exhaustion (may be mistaken for hypothermia, and can precede hypothermia)
- following an epileptic seizure (casualty gets very tired)
- eye injuries
- shock - seen as abnormal vital signs: pulse, respirations, skin colour, temperature, pupils, and conscious state
 - hypovolaemic shock - loss of fluid : blood, plasma, perspiration, diarrhoea, vomiting
 - anaphalactic shock - allergic reaction eg: bees, toadstools
 - neurogenic shock - head or spinal injury, hypoglycaemia

* indicates time critical patients as identified in the "Patient selection criteria from the Health Department Policy and Procedure Document" and would be evacuated to the nearest trauma centre by air ambulance. Many of the injuries listed above are time-critical.

5.1 STRETCHER EVACUATION

If a competitor has to be evacuated with a stretcher by the VRA, a suitable stretcher such as a stokes (basket) stretcher or a folding stretcher should be used if available. If a VRA stretcher is not available, the First Aid Officer should consider waiting for a professional rescue team to arrive. An alternative would be to make a bush stretcher or ski sled (snogaines), however this is not a preferred option for rogaines.

Casualties must be correctly immobilised with any bleeding controlled before loading on to the stretcher. Head, spine, pelvic and neck injuries must be very well immobilised, either with a correctly fitting cervical collar or with an improvised apparatus. Casualties with non traumatic chest pain such as suspected angina or respiratory distress may be more comfortable sitting up or semi reclining, rather than lying flat.

PRE-LOAD

- test stretcher strength and security
- position casualty as determined by injuries and condition
 - arms against body, legs straight together
 - remove objects under casualty eg: compass, keys
 - * unconscious and vomiting casualties are placed on their side
- position stretcher close to patient
 - ensure correct length and width
 - prepare stretcher with blanket(s), sleeping bag ..

LOADING

- lift casualty with 4-6 people supporting shoulders, hips, knees, ankles. One person is allocated the task of firmly but gently securing the casualty's head during the lift by supporting underneath and at the sides of the head. The head must be kept in line with the casualty's neck and spine.
- count " 1 2 3 LIFT" to synchronise lifting
- place casualty on to stretcher and check their comfort
- cover with blankets and protect from the weather and twigs, scrub
- secure casualty to the stretcher with belts (supplied with stretcher) or improvise. Secure at the chest (not too tight), hips and ankles. The head may be kept still by tying a broad bandage over the forehead and to the stretcher sides.

LIFTING

- lift with thigh muscles, not back muscles
- stronger lifters are placed at the torso and head
- over rough terrain a lifting team should comprise of no less than 6-8 per lift with a further 8-16 relief lifters depending on the terrain and distance to cover

CARRYING

- walk slowly, average travel time through open bush with a stretcher is 2 km/hr
- rotate lifting teams regularly
- maintain regular casualty observations
- send scout(s) ahead to find a good path for lifters to follow
- on steep or slippery sections use as many people to assist as possible. Use ropes if necessary to secure stretcher or to act as a pulley

TRANSPORT OF SUPINE CASUALTY

- transport is preferable by an ambulance or helicopter (air ambulance)
- if VRA are responsible for transport, a wagon, 4wd or van will be needed with reclining seats to form a flat surface to fit the full length of the casualty on the stretcher
- the driver should drive carefully, avoid sudden acceleration and deceleration or sudden turning or swerving. The driver should avoid corrugations, pot holes and

other uneven surfaces as best as possible. The driver will not rush.

6. FIRST AID 'WALK-OUT' CASES

Casualty may walk out with assistance to awaiting vehicle and then transferred back to HH and/or to hospital or Doctor.

- fractures/sprains to upper limb (casualty will let you know whether they feel like a walk or carry)
- minor abrasions, lacerations - minimal bleeding
- minor head injuries without L.O.C. (take vital signs)

It is important to remember that some injuries/illnesses may alter nervous system functioning without too many external signs and symptoms being available to the first aider. Some casualties will insist they feel fine and can walk, but in fact when put to the test, they cannot, for example casualties with hypothermia, head injury or spinal injury (altered sensations).

7. SPECIFIC INJURIES AND FIELD TREATMENT

DRABC (taught by St John Ambulance, Australia) stands for
Danger (to self, bystanders, casualty)
Response (make sure casualty is not just asleep)
Airway (clear vomitus, keep tongue from rolling back)
Breathing (Are they breathing? Is it regular or irregular breathing?)
Circulation (Do they have a pulse? Are they bleeding severely anywhere?)

7.1 HEAD INJURIES

- a serious head injury may cause any of the following symptoms : altered consciousness, vomiting & nausea, unequal pupils, flushed skin (face), blurred vision, irritability, drowsiness, confusion, amnesia, bleeding & swelling, clear fluid from ears or nose, change in breathing, altered sensation in the limbs.

- * DRABC
- * immobilise neck (cervical spine)
- * assess vitals every 10 minutes until relieved by professional help OR until vital signs become stable and 'normal'
- * evacuate by stretcher, or wait for professional rescue team to arrive

7.2 SPINAL INJURIES

- injury to the cervical, thoracic, lumbar or sacral spine, history of injury which involves compression (eg; fall from height onto feet), extension, flexion or rotation of spine. Signs of spinal injury include: severe pain, altered sensations, numbness, laboured breathing, paralysis of limbs and muscles in adomino-pelvic regions.

- * DRABC
- * immobilise neck and keep casualty as still as possible but do not compromise an open airway
- * treat other injuries without moving the casualty
- * reassure casualty
- * evacuate preferably by professional rescue team who will have special stretchers and immobilisation devices for the casualty

7.3 PELVIC INJURIES

Treat as above. Force sufficient to fracture a pelvis can also damage the spine. Look for signs of shock as there may be internal bleeding in the abdomino-pelvic regions.

7.4 SHOCK

In First Aid, shock does not mean 'scary'; it describes a life-threatening condition often where the cardiovascular system fails to provide sufficient circulation to all body tissues. Shock can develop rapidly in adults, and very rapidly in children. Signs and symptoms may include : weakness, nausea, thirst, dizziness, initially increased pulse leading to weak rapid pulse and then weak pulse, increased respirations leading to laboured breathing and then weakened respirations, fearfulness, pale and clammy skin, changes in conscious state, coolness and feeling of impending doom. Exposure to allergen may lead to shock.

* DRABC

* position patient with legs raised (Do NOT do if casualty has spine, neck, pelvic, abdominal injuries, chest injury or hip dislocation)

* monitor vitals every 5 minutes and record them on paper

* treat other injuries

* keep casualty warm, reassure

* give nil by mouth (If casualty complains of thirst very small sips of water are OK. If casualty vomits after water, ensure clear airway).

* evacuate or send for professional rescue team (who can bring life saving equipment such as IV fluid and oxygen)

7.5 HEAT EXHAUSTION

In many cases heat exhaustion follows on from exercise in hot or humid conditions and/or dehydration. It may quite easily affect any roganier in hot weather. Unchecked heat exhaustion leads to life-threatening heat stroke, where body temperature can rise at one degree every five minutes. Signs of Heat Exhaustion: pale, cool, clammy skin, weak pulse, heavy perspiration. Signs of Heat Stroke: flushed, dry, hot skin; full rapid pulse; virtually no perspiration; and LOC.

* DRABC

* cool casualty in shade, fan, wet towels, remove excess clothing

* give cool water if casualty is fully conscious

* rest and prevent further exercise or return to hot conditions

* evacuate to HH or hospital (if suspecting heat stroke, or if heat exhaustion fails to improve)

7.6 HYPOTHERMIA

Signs and symptoms include shivering, slurred speech, stumbling, cold extremities and later cold limbs, reduced body temperature, pale, dry skin; later : spasmodic shivering then no shivering, gross muscle unco-ordination, inability to walk or stand, altered mental state, unreasonable or surprising behaviour, altered conscious state, vision problems, reduced pulse and respirations; end stage : coma, dilated pupils, barely detectable pulse or respirations. It is imperative that roganiers recognise the early signs of hypothermia, because the worse it gets, the harder it is to reverse especially in the field.

* DRABC

* shelter from elements: cold, wind, water

* only remove wet garments if in a controlled environment

* if not in a controlled environment (eg: still outside), commence treatment using the Vapour Barrier Principle. This principle is used for moderately to severely hypothermic casualties.

- ensure casualty has head and neck covered

- place plastic bag over casualty (wet clothes still on)

- place in sleeping bag
- place second plastic bag over sleeping bag
- * take vital signs every 10 minutes and record them on paper
- * if casualty is fully conscious, give warm sweet fluids
- * evacuate by stretcher to awaiting vehicle OR camp where casualty is found and rewarm them there inside a tent. If casualty is severely hypothermic and is not making any improvement, send for professional medical team.

DO NOT give alcohol, nicotine or caffeine

DO NOT massage the casualty's skin

DO NOT exercise the casualty until body temp has been stable at 37° for at least 4 hours

DO NOT return the casualty to a cold environment until temp is stable and 24 hours have passed

DO NOT handle severely hypothermic casualty with roughness or sudden movements

** Standard thermometers are not suitable for recording severely hypothermic body temp.

7.7 SNAKEBITE

Site will be reddened with one or more puncture marks or scrapes. Hopefully, team-mate has immediately applied firm (not tight) pressure immobilisation before the first aider arrives.

* DRABC

* pressure immobilisation bandage (if not already done). Do not release existing bandage unless you are absolutely certain that it is so tight that circulation is impaired - then swiftly reapply correct bandage.

* reassure

* keep casualty lying down at total rest

* watch for signs of paralysis to the respiratory muscles and be prepared to begin EAR or CPR

* evacuate by stretcher to awaiting vehicle and notify hospital or send for a Doctor/professional medical team who may administer antivenom in the field (unlikely though).

7.8 HEART ATTACK

A heart attack will range from discomfort to severe pain in the centre of the chest and possibly radiating up to the neck and arm and jaw. Angina medication and complete rest for 5-10 minutes does not usually ease pain of a heart attack as it can for an angina attack. Casualty will be anxious, have pale, cold clammy skin, feel nauseous, may be short of breath and may develop shock. They may have no pulse, a pulse and be unconscious, or be fully conscious. A heart attack is different to a cardiac syncope brought on by exertion, where the person 'faints' during a heavy bout of exercise such as uphill running. Heart Attack, angina and cardiac syncope should all be managed as below:

* DRABC

* place casualty on side if unconscious or suffering from shock.

* can sit casualty up if conscious (may be more comfortable and easier to gain breath).

* keep casualty at complete rest, reassure and keep comfortable.

* seek medical attention ASAP by VRA stretcher to waiting vehicle or professional rescue team.

REFERENCES AND FURTHER READING

Course Setting & Rules of Rogaining

Phillips, Phillips & Foley (1989) Cross Country Navigation, Outdoor Recreation in Australia

Victorian Rogaining Association ADMINISTRATION MANUAL

Victorian Rogaining Association CO-ORDINATORS MANUAL

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Special Thanks to Rod Costigan and Rod Phillips for their input in the area of rogaining rules and manual production.

Rescue Procedures and Bushcraft/Survival

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Australian Ski Patrol Association (1986), The Alpine Rescue Manual

Federation of Victorian Walking Clubs (1993), Search and Rescue Manual, Federation of Victorian Walking Clubs, Search and Rescue Section

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First Aid

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Grant, Murray & Bergeron (1989), Emergency Care 4th edition Prentice Hall, New Jersey

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Helicopter Information & Further Reading

Police Air Wing staff, Essendon Airport

Police Manual section 41.40B "Safety Around Helicopters", AirWing 23 March, 1993

FVWC Search & Rescue Manual pp 33, 39, 42, 58

Bushwalking and Mountaincraft Leadership pp 125

Special Thanks to Rob Gatt for providing extra information in this area.

Bushfire Information & Further Reading

Webster, Joan (1989) The Complete Australian Bushfire Book Penguin Books Ltd. Ringwood Victoria

Bushwalking and Mountaincraft Leadership (1986), pp 131-136

Special Thanks to the following individuals for their contributions in the area of Bushfire Safety :

Prue Dobbin, Richard Scott

VRA FIRST AID SHEET

REMEMBER THERE IS A FULLY COMPREHENSIVE FIRST AID KIT AVAILABLE AT THE HASH HOUSE

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*

SPRAINED ANKLE : Sprains or dislocations are often associated with fractures. If there is any doubt about the injury, it should be treated as a fracture.

FIELD TREATMENT

* Ice or cold compress may have to wait until casualty is back at HH.

1. Apply a firm roller bandage to the injured joint
2. Elevate the affected part
3. If pain and swelling persists, send members back to the HH to obtain a vehicle or stretcher

*

BLISTERS OR 'HOT SPOTS' : To avoid blisters, apply tape (leukoplast or similar waterproof tape) to trouble areas before rogaine starts.

TREATMENT (once blisters have formed)

1. Apply a piece of tape over affected area. (If using bandaid use only sticky part, as gauze will continue to rub on the blister). Popping blisters during a rogaine may lead to infection.

*

*

WOUNDS : This treatment is applicable for minor cuts to deep lacerations.

TREATMENT

1. Control bleeding by applying immediate pressure to the area, and elevate the area
2. Clean the wound as well as possible
3. In the case of a deep laceration, apply a sterile dressing if possible and a firm (not tight) roller bandage. If blood soaks through the dressing, add more dressings over the existing one and/or apply more pressure
4. If blood loss is extensive, watch for signs of shock developing
5. If the laceration is deep, either return to HH to receive further medical attention or send for further assistance

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*

HYPOTHERMIA : The most effective way of detecting cold related problems is by observation, that is, watching and talking to other team members. Signs of hypothermia include unreasonable behaviour, irritability, difficulties with speech and vision, shivering, difficulties with co-ordination, stumbling, lagging behind the group, making navigation errors or leaving the navigation to someone else (apathy), cold skin, pale skin.

TREATMENT

1. Take shelter from the wind, rain and cold air temperature
2. Put on extra clothing, huddle for warmth
3. Eat high energy foods, drink
4. If person fails to warm up, send for assistance

*

*

HEAT EXHAUSTION : Warm temperatures, prolonged physical activity and inadequate fluid intake can lead to heat exhaustion. Signs include pale, clammy skin, profuse sweating, nausea, cramps (particularly calf muscles), altered mental state. HEAT STROKE is life threatening and occurs with untreated heat exhaustion. Signs include hot, dry, flushed skin, visual disturbances, altered mental state, collapse and unconsciousness. Heat stroke can cause permanent damage.

TREATMENT

1. Shelter in a cool place (shade)
2. Give frequent drinks (cool water)
3. Cool person down with water on skin, wet clothes, fan, rest
4. If person stays overheated inspite of efforts 1-3, send for assistance

*

*

EYE INJURY : If a wound to the eye is severe DO NOT examine the eye as this may lead to the contents of the eye being squeezed out through any cuts.

TREATMENT

1. Lie casualty on their back
2. Wrap a bandage or apply eye pads to BOTH eyes and secure it lightly. Ensure there is no pressure on the eye
3. Instruct casualty not to move their eyes
4. Obtain assistance from the HH. Do not try to lead the casualty

*

*

FRACTURED LIMBS : In the event of a fracture, intense pain and swelling will take place in the area of the fracture. The limb may or may not be deformed. Seek assistance ASAP.

TREATMENT

1. Immobilise the affected limb by bandaging a padded splint to the limb (a jumper covered tree branch will do). In the case of a leg fracture, the other leg may be used as a splint.
2. For open fractures where the skin is broken, treat as you would for WOUNDS and then immobilise the limb trying to not directly put the bandage on the opened area.
3. Watch for signs of shock developing (if so keep person warm and lying down with head low)
4. Seek assistance ASAP

*

*

SNAKE BITE : Assume all bites are from venomous snakes. The bite may be one or more puncture marks or scrapes on the skin.

TREATMENT

1. Immediately apply a pressure immobilisation bandage over the limb. Bandage from the extremity - toes or fingers to the groin or armpit. Bandage firmly to compress tissue, but not to stop blood supply. Check that circulation to extremity has not been cut.
 2. Splint the limb and keep casualty at total rest.
 3. Reassure casualty and send for assistance ASAP
- * DO NOT apply a tourniquet
** DO NOT excise the area
*** DO NOT walk the casualty back to the HH. DO bring help to casualty.

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IF IN ANY SITUATION FURTHER ASSISTANCE IS REQUIRED, GIVE THREE 3 BLASTS ON YOUR WHISTLE.

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TO KEEP THIS SHEET WATERPROOF, APPLY CLEAR CONTACT FRONT AND BACK.

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