



SEPTEMBER 2010

## FORUM TOPIC OF THE MONTH:

**Should the cap continue to be part of the modern Fire Service uniform?**

*To join the discussion about this topic, go log on to [www.ufba.org.nz/forum](http://www.ufba.org.nz/forum), go to topic of the month, and post your comments on the UFBA member forum. NOTE: You must be a registered user of the website and logged in to participate.*

## WEBSITE LAUNCH CONTEST CLOSSES ON 30 SEPTEMBER

Get in quick to be entered to win one of the great prizes up for grabs. Just register through the UFBA website by 30 September, and you'll be automatically entered to win:

- A Samsung S8300T touch screen cellphone (retail price \$699.00), courtesy of Orb Communications. For specs, visit [www.telecom.co.nz/mobile](http://www.telecom.co.nz/mobile)
- Two nights of accommodation at a Heritage or Citylife Hotel of your choice, from Orbit Corporate Travel
- \$500 in branded merchandise (retail value) from the UFBA.

To register, log onto [www.ufba.org.nz](http://www.ufba.org.nz) and click on the big red REGISTER button at the top. Thanks to Orb Communications, Orbit Corporate Travel, Swazi Apparel, and Placemakers – for making this promotion possible.

## AUGUST FORUM RECAP

In August, we asked if your brigade needs any additional training or resources to be equipped to respond to non-fire related incidents.

There were several common themes in the responses. Some of the suggestions included being allocated a dedicated training budget; being supplied with props such as dummies, flares, and smoke machines; replacing computers with laptops that would be more useful in training; and developing a quarterly centralised training plan to ensure consistency between brigades. Networking with other brigades and holding combined training nights also showed up in the thread.

Thank you to those who took the time to join the discussion. You can view the thread at [www.ufba.org.nz/forum/viewforum/10/](http://www.ufba.org.nz/forum/viewforum/10/). This forum topic will remain open, so feel free to throw your five cents worth in any time.

## STATUS UPDATE: E-COMMERCE FIRE SHOP

We are currently working on the new online UFBA Fire Shop. As we began to move through the planning process, we identified an opportunity to tie service honours into this system to make it easier for brigades to place orders online. We have a little work to do before we can confirm this. We are currently working through these possibilities, and hope to bring you the new online Fire Shop in October – just in time for Christmas.

## FROM THE PRESIDENT



Ross Ditmer

This month, the Leeston Volunteer Fire Brigade will celebrate its 125-year jubilee. On behalf of the UFBA, I extend congratulations to the brigade, and am pleased to be able to join its members in celebrating the historic occasion.

Planning for the National Conference being hosted in Wellington at the end of November is well underway. I'm looking forward to seeing many of you there.

Many of you will be aware that the recently-released government report on alcohol reform recommended that fire station canteens remain exempt from having to hold a license to sell or supply alcohol. This is a good step forward in the process. Updates on this and other issues will continue to be available through the newsletter and the website.

Ross Ditmer

President

## GOING THE EXTRA MILES



On 12 September, Paul Dennehy of the Brighton Volunteer Fire Brigade will be taking part in the Moro Marathon Recreational Walk in Dunedin in support of young Cerebral Palsy sufferer Daryl-Ann Fehsenfeld.

Paul wanted to do something that would give him a sense

of accomplishment and purpose, so he decided to participate in the event to raise money for for the three-year-old little girl – with the added challenge of doing it in his 20.5 KG Level 2 fire suit.

The UFBA wishes Paul the best of luck. If you'd like to find out more about supporting Daryl-Ann, visit [www.darylann.co.nz](http://www.darylann.co.nz).

More on this story is available at [www.ufba.org.nz/media/press\\_room\\_list](http://www.ufba.org.nz/media/press_room_list).

### YOUR SEPTEMBER "TO-DO" LIST

- Return Conference Delegate Nomination Form by 27 October (see p. 8).
- Register your interest to host a Combat Challenge in 2011 (see p. 8).
- Contact the UFBA if you're interested in participating in a focus group on training and resources. Email [george.very@ufba.org.nz](mailto:george.very@ufba.org.nz). (see p. 6).
- Register as a member of the UFBA website before 30 September to be entered to win great prizes. Just go to [www.ufba.org.nz](http://www.ufba.org.nz) and click the REGISTER button.

## SUPER CITY = SUPER RURAL FIRE AUTHORITY?

Plans for the new Auckland Super City of merging eight local authorities mean amalgamation, too, of the present rural Fire Authorities. Confronted with this change, about a dozen Rural Fire Forces (RFFs) throughout greater Auckland asked the UFBA to assist with advocacy as the plans emerged for the new, enlarged, rural fire entity.

As communication developed, concerns were listed and a strategy developed, other RFFs joined until the group now involves all those most affected by Super City changes.

The UFBA listened to the worries expressed, wrote them up, and had the thrust and detail of the document confirmed with the participants. Their submission was then forwarded to the body legally responsible for engineering change in Auckland, the Transition Authority.

The RFFs' main theme is that, in the new Auckland city, they want to continue serving their communities just as they are now: nearly all have geared up to attend structure fires, vehicle crashes, medical call-outs and a wide range of other emergencies. They want

acknowledgment, recognition and funding to ensure they can carry on after the changes associated with the Super City. They also say there's the spectre of an Enlarged Fire District on the horizon.

The UFBA, on their behalf, put a proposition that particularly suited urban-rural fringe areas - the type of settlement many of these RFFs serve - providing something of a model that might suit other RFFs elsewhere in New Zealand serving similar communities. The proposal includes RFFs exclusively rural.

While most of the Auckland RFFs are reserving their right to consider other options, advocacy continues as the architecture for the Super City evolves and, later, matters will be taken up with the elected Mayor and Councillors and the City Executives to put the RFFs' collective case.

The Auckland RFFs' submission, *The New Auckland City: A Model for Rural Fire and Emergency Services* is available at [www.ufba.org.nz/news/rural\\_news\\_list](http://www.ufba.org.nz/news/rural_news_list).

## RURALS ADDED TO OUR WEBSITE FAMILY

We have added a section on our website for Rural firefighting interests. For many years, the UFBA has included volunteer Rural Fire Forces in its memberships and now, with major changes in the rural sector, we are providing their own section on the UFBA website.



We heard that Rural Fire Force volunteers are often behind the play when it comes to communication at a time when they need to be kept right up to date with nation-wide and local changes in the industry. Notably, Enlarged Rural Fire Districts and, in Auckland, the advent of Super City with changes to Rural Fire.

We hope that the new site will help overcome this, while our Forum provides ample opportunity to ask questions

(we'll endeavour to get the answers!) and for your comments.

## ALCOHOL REFORM REPORT SAYS FIRE STATIONS A SPECIAL CASE

The just-released Government report on alcohol reform recommends fire station canteens remain exempt from having to hold a license to sell or supply alcohol.

Last year the UFBA and the New Zealand Fire Service Commission combined to present a submission to the Law Commission, Sir Geoffrey Palmer, advocating the status quo – that fire brigades, particularly volunteers, have unique reasons for retaining their onsite canteens without the need for individual licenses.

Sir Geoffrey decided there should be no exemptions for canteens, but the Government has recommended otherwise.

“This is a good outcome,” says UFBA Chief Executive George Verry, “but it’s just one step along the legislative process towards the exemption being in new liquor law passed by parliament.” (The only other 2 exemptions recommended in the report are Police and Defence canteens).

For more info, visit [www.beehive.govt.nz/release/government+outlines+balanced+plan+alcohol+reform](http://www.beehive.govt.nz/release/government+outlines+balanced+plan+alcohol+reform)

## AWHITU VOLUNTEER RURAL FIRE FORCE ADDS VALUE FOR ITS COMMUNITY

Fire Chief Howard Logan and his brigade found a way to better serve the residents of the Awhitu Peninsula in South Auckland – and it's all based on building solid relationships.

Firefighters know just how valuable every second is in emergency situations. But how do you improve response time to medical emergencies when you're covering a large, isolated area and the nearest ambulance station is 28 kilometres away? That's the challenge for Chief Howard Logan and the Awhitu Volunteer Rural Fire Force.

The brigade handles a minimum of 30 medical calls each year in the Awhitu Peninsula outside of Auckland - spanning 20 kilometres from north to south and seven kilometres from east to west.

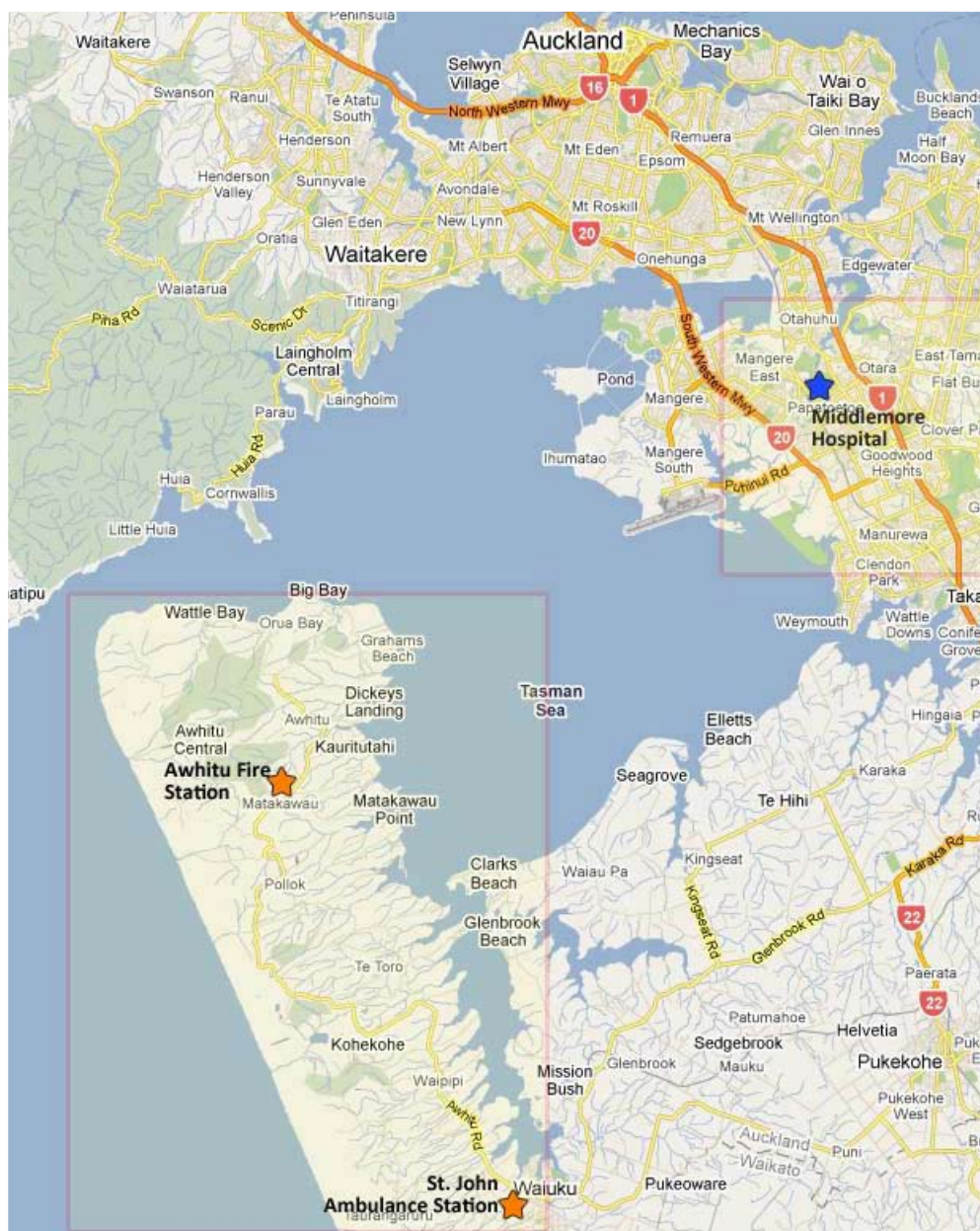
“The closest ambulance station is 28 kilometres south of the fire station in Waiuku, and it's another 10 K to the top of the peninsula,” says Logan. “Even when the

ambulance really goes for it, it could take some time for the paramedics to arrive at a medical call, especially when they're travelling through unfamiliar terrain.

“There are also times when the Waiuku ambulance is at another call, so the paramedics may come from as far away as Middlemore Hospital – about 70 kilometres away.”

Distances and travelling times can be deceptive looking at the map - the Awhitu Peninsula looks so close to Auckland - just across the Manukau Harbour - but it's a long way around by road.

“That's why it's so important for our brigade to respond to calls quickly. With cardiac arrests, you only have seven minutes,” says Logan.



Ten years ago, the need for speed led Logan and his brigade to find a better way of serving local residents. They came up with the idea of creating a network in the community that would enable them to get first responders to incidents more quickly - a system that they've continued to improve over time.

The network includes 30 brigade members, two registered nurses, one member of Land Search & Rescue, and three local women who volunteered to take turns acting as coordinators.

The idea behind the system is to get someone from the brigade to every medical incident as soon as possible – with or without the brigade's medical vehicle. The Deputy Chief, Grant Andrews, who also coordinates the medical training for the brigade, oversees the system.

To do this, Logan created a grid where brigade members – all first aid trained, and four of them certified in pre-hospital emergency care (PHEC) – are segmented based on where they live. *(continued on next page)*



## FLASH BACK:

Awhitu District's local emergency services were mindful that the peninsula is on Auckland Airport's flight path. Even before the airport opened in 1966, it held exercises, like these, simulating plane crashes with multiple "patients" rescued and treated.



*Photos courtesy of Ric Carlyon.*

The coordinator on duty carries a medical pager and, when a medical call comes in, refers to the grid and calls the firefighters who live in the immediate area. These first responders go straight to the location, identify the property, provide reassurance to the family, and administer first aid.

At the same time, the nurses and PHEC-certified firefighters - also equipped with medical pagers - contact the coordinator on duty to determine whether additional support is required.

And as part of standard operating procedure, the coordinator calls around to get someone close by the station to pick up the medical vehicle. If she feels she can't get a response, she calls the Fire Service and asks for them to activate the siren.

"The coordinators are the key to the whole system, and while it's not perfect, it's worked out well for us so far," Logan says. "Getting first responders to medical incidents right away puts people at ease. It's so valuable having those first people on the scene because they can assess the situation quickly and identify what extra resources may be needed to handle it properly."

"In one situation, our people turned up and knew right away that the Westpac helicopter would be needed. By saving time in that case, we ended up saving a life."

Twenty-one years ago, Logan was one of the founding members of the brigade, and over the decades, he's learned the importance of maintaining good relationships. The Awhitu Rural Fire Force has fostered very positive relationships with the Westpac helicopter, the Waiuku Volunteer Fire Brigade, and the ambulance service.

"It's a lot of people coming together to serve our community better," Logan says. "All the people and organizations we work with are important pieces of the puzzle, and we couldn't do what we do without one of those pieces."

## THINKING ABOUT LEARNING

By Judith Stanley, the UFBA's Representative on the National Training Standards Committee.

Training and learning are two parts of the same equation that leads to competent firefighters. As individual firefighters, we rely on the skills developed during training to see us right when we respond to a range of incidents. Learning is a survival skill, on and off the job.

The UFBA is exploring ways to get involved with the development of resources that support the TAPS and OSM framework, and that recognise the need for flexibility and variety in meeting the learning needs of volunteer firefighters. It's all about developing a culture of continuous learning amongst firefighters.

The mediums available to refresh our thinking include more than just the printed word. Electronic and web-based resources include videos from around the world, web games, social networking (Facebook etc), as well as static images like posters, pocket references, learning plans, PowerPoint displays, and planners. Variety is the key to continuous learning, particularly for those of us with a low boredom threshold. It's never been easier to learn.

The new website is a step in this direction. The hope is that the UFBA will be able to do more in the areas of training and resources going forward.

Here are a few ideas to make your learning time more efficient. Try different things and find something that works for you:

- Be SMART (Specific, Measurable, Achievable, Realistic, and Time bound) in your planning.
- Make a commitment to learn something new every day.
- Plan blocks of time for learning. Ten minutes revising an activity is better than no time at all.

- Review training activity or incident the next day to improve your understanding. Do it alone or with others – whatever works for you.
- Draw a diagram of a training session or incident scenario to better understand the outcomes.
- Value your time and use it wisely.
- Make learning a priority in your life.
- Know your own strengths and weaknesses.
- Make time to play and be active. It's good for the brain and the body.
- Do something new and interesting. Boredom kills the imagination and imagination is the key to innovation.
- Plan time for constructive reflection.
- Make a daily, weekly, and monthly 'to do' list.
- Review your 'to do' lists to ensure the objectives and priorities remain relevant.
- Identify activities that you consider to be 'time wasters' and try to reduce them.
- Use a diary or calendar to plan your time.
- Be prepared to say 'no' to people who ask too much, or if you are over-committed.
- Set at least one major objective every day.
- Practice.
- Ask questions to help figure stuff out. Why and how are good starters.
- Finish what you start.
- Do it now!

As Albert Einstein once said,  
"Imagination is more important than knowledge."

### GET INVOLVED

The UFBA is now calling for expressions of interest for members who wish to be part of a focus group on training and resources.

If you are interested in contributing your time to help us identify the needs in these areas, email [george.verity@ufba.org.nz](mailto:george.verity@ufba.org.nz).

## AUCKLAND'S SUCCESSFUL FIRE FIELD CAMP

Hot firefighting and realistic scenarios were the keys to the success of the recent biennial Fire Field Camp held at Whangaparaoa under the auspices of the Auckland District Fire Brigades' Sub-Association.

Trainers and a support team joined about 70 volunteer firefighters for a weekend of intense practical exercises, ranging from hot firefighting to motor vehicle extrications and a simulated plane crash.

Organisers say they are fortunate to have available, courtesy of the Ministry of Defence, a venue that is closed to the public, enabling realism for each of the various scenarios.

Participants, enthusiastic about the success of the weekend, are asking if the biggest event on the local fire calendar can be made an annual learning experience.

### PHOTOS

(Courtesy of Nick Clifford)

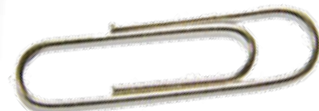
**Top:** Firefighters attack car fire with high pressure delivery.

**Middle:** Firefighters work to extinguish a car fire.

**Bottom:** Firefighters learn about fire propagation in the Fire Development Workshop.

**To view more photos of the event,** log onto [www.nickclifford.net/FieldCampRelease/](http://www.nickclifford.net/FieldCampRelease/)





## UFBA Firefighter Combat Challenge 2011

The UFBA would like to hear from those that are interested in hosting the following events in 2011:

**March / April:** North Island Firefighter Combat Challenge & South Island Firefighter Combat Challenge

**September / October:** National Fire Fighter Combat Challenge

Download expression of interest forms at [www.ufba.org.nz/events/host\\_an\\_event](http://www.ufba.org.nz/events/host_an_event), or email [events@ufba.org.nz](mailto:events@ufba.org.nz).



## Conference Notice

**The deadline for the receipt of the conference registration forms is 27 October.** An electronic version of the form is available for download at [www.ufba.org.nz/events/132nd\\_conference](http://www.ufba.org.nz/events/132nd_conference). If you cannot access the form online, email [events@ufba.org.nz](mailto:events@ufba.org.nz) or phone 04 237 0265.

Delegates who choose to register without having sent through the correct paperwork to the UFBA will be responsible for any costs incurred (flights, accommodation, social functions, etc.). Observers and partners are not required to complete the form and will still be able to register once the online registration is up and running in early September.

The conference will be held on 27 – 29 November 2010 at the Duxton Hotel, Wellington. Online registration will open the week beginning September 6 through the UFBA website.

## Challenge Equipment

Hosting an official event, but short on resources? The UFBA's equipment can be made available for official events. All you need to do is put a request into the office. In some cases there will be a cost involved to transport the equipment to and from the UFBA office, and some equipment may need the expertise of a Technical Panel member. The Challenge Equipment Request form and Challenge Equipment Policy are available at [www.ufba.org.nz/events/list/category/ufba\\_challenges](http://www.ufba.org.nz/events/list/category/ufba_challenges).



## KEY DATES

Below are the deadlines for that you need to know about if you're planning to participate in an upcoming event. Remember to keep an eye on the website for updates on UFBA upcoming events.

### 2010

27 October	Delegate Nomination Forms due for Conference
27 – 29 November	National Conference Duxton Hotel, Wellington

### 2011

15 January	Region 2 Waterway Challenge Carterton
29 January	Region 1 Waterway Challenge Turangi
5 February	Region 4 Waterway Challenge Oamaru
12 February	Region 3 Waterway Challenge Hokitika
24 – 26 February	National Waterway Challenge Carterton
13 – 16 July	Australasian & World Road Crash Rescue Challenges, Christchurch

## SEPTEMBER GOLD STAR RECIPIENTS

Congratulations to the following members, who will be honoured this month for 25 years of service:

**Ian Dippie**, Temuka

**Mark vere Anderson**, Helensville

**James Easson**, Tiwai

**Wayne Henderson**, Tiwai

**David Mantell**, Gore

**Michael O'Neill**, Gore

**Anthony Urlich**, Waipu

**Christopher Brown**, Wellsford

**Colin Greenwood**, Wellsford

**Ross Ditmer**, Rangiora

**Bryce Loudon**, Turua

**Paul Hannibal**, Paeroa

## NZFS VOLUNTEER SUSTAINABILITY PROJECT

*An update from Rachel De Haas of the NZFS Human Resources Team.*

The research and recommendation phase of the volunteer sustainability project is coming along at a great pace.

Thank you very much to all of the following brigades who have welcomed a visit from NHQ HR representatives to talk about their views on how their brigade operates and where areas for improvement may exist both locally and nationally:

Akaroa	Levin	Pukekohe	Te Awamutu
Ashurst	Martinborough	Rakaia	Tokoroa
Bayview	Masterton	Ravensbourne	Turangi
Bulls	Mercer	Rolleston	Turua
Feilding	Morrinsville	Silverdale / Manly	Waihi Beach
Gore	Motueka	Silverstream	Waverley
Helensville	Oakura	St. Andrews	Whangamata
Kaeo	Orepuki	Stratford	Winton
Kaikohe	Otaki	Tauranga	Woodville
Kamo	Paekakariki	Tawa	

These workshops have been very valuable and have given us a lot of feedback to include in our analysis.

There has also been a good response to the volunteer sustainability survey, which offered everyone the opportunity to feed into the project. The responses are currently being collated and analysed.

Over the next six to eight weeks, all of the information will be brought together into a structured paper with recommendations. This is a very exciting time for the NZFS - seeing how we can help to improve the attraction, retention and engagement of our volunteer workforce.

*If you would like to find out more about any part of this project, please contact Rachel de Haas, Organisational Development Advisor on 027 443 9756 / 04 496 3607 / [rachel.dehaas@fire.org.nz](mailto:rachel.dehaas@fire.org.nz).*

## NZFBFI RECOMMENDS...

Starting this month, the New Zealand Fire Brigades' Institute and New Zealand Fire Service Library will be teaming up to bring you a recommended article in each monthly newsletter. There is no shortage of resources in the Fire Service Library, so we encourage you to visit regularly when you're looking for information or new ideas. Here's this month's featured article:

### NZFBFI FIVE-MINUTE QUIZ

Take the quiz below and test your firefighting knowledge. The topic for this month is "Building Construction". Questions are courtesy of the New Zealand Fire Brigades' Institute.

- 1) At what temperature does steel lose half its strength in a fire?
- 2) How else does heat affect steel?
- 3) Steel can be made to retain its strength for longer periods under fire conditions by using what two things?
- 4) Concrete can crumble and peel when heated. What is this known as?
- 5) What are the three main causes of Spalling?
- 6) What type of construction panels pose a serious risk to fire fighters during a fire?
- 7) What is the above made out of?
- 8) What 3 main problems in relation to fire do they cause?
- 9) Fire cells serve two main purposes - what are they?
- 10) During a fire in a building, you may notice the following - cracks or bulges in the walls, concrete crumbling or peeling, unusual sounds, water or smoke pushing through what appears to be solid masonry wall. What are they signs of?

Answers to this quiz are available online at [www.ufba.org.nz/nzfbfi/five\\_minute\\_quiz/september\\_2010](http://www.ufba.org.nz/nzfbfi/five_minute_quiz/september_2010) and will also be published in next month's newsletter.

### HOW TO CARRY OUT EXTRICATION ON HYBRID VEHICLES

By Remco Niks, Technical Rescue Consultant for Holmatro Rescue Equipment

In response to environmental issues, electric powered vehicles are becoming popular among drivers eager to move to greener travel modes. Hybrid vehicles contain two different power systems, usually combining the use of petrol and an electrical engine. There are three types of hybrids in the market, with differing degrees of electrical capability. The Toyota Prius is a commonly seen full hybrid, which can operate completely on electric power.

How does the electric power source affect your rescue operation, particularly when cutting is required?

In a brief article from a UK magazine, Remco Niks describes the three types of hybrids currently on the market, and looks at the implications for emergency responders. The full hybrid, he explains, is the one to watch out for. To enable full electric drive, a higher voltage power system is required than found in most cars. The most important point is that the high voltage system may remain powered up for 10 minutes after the vehicle is shut off or disabled.

Most cars use the metal body of the vehicle to ground the electrical charge. This works differently in a full hybrid, as manufacturers have created various safety systems to remove the risk of electrical injuries to responders. Niks explains how these protections work, and how you can safely disable a hybrid before cutting into the vehicle body for extrication.

In his opinion safety features, such as roll over protection, will be the cause of more problems for responders than an electric power source.

**If you would like to read the full article,** email a request to the Library Team at [infoc@fire.org.nz](mailto:infoc@fire.org.nz), or read the article online at [http://www.hemmingfire.com/news/get\\_file.php3/id/190/file/Extrication.pdf](http://www.hemmingfire.com/news/get_file.php3/id/190/file/Extrication.pdf)

From: *Fire and Rescue (UK)*, no78, 2nd quarter 2010, p56-58. This journal is freely available online.

## MAN ON FIRE: RAISING AWARENESS FOR BURN PREVENTION IN NEW ZEALAND

At the 2010 Otago Southland Provincial Fire Brigades' Conference and Waterway Challenge, hosted by Browns VFB, the proceeds from the "Sheriffs" session and the donations at the Sunday Service totalled \$610.00, which was recently delivered to the South Auckland Health Foundation by a Member of the Browns Brigade.

This donation was put towards the purchase of an Operating Microscope for micro-vascular surgery, which will be used in the National Burn Centre at Middlemore Hospital.

No doubt the biggest supporter of this project is

David Walker from North Shore, David ran in the Badwater Ultra-marathon in California's Death Valley, running 217km from 85 metres below sea level to 2548 metres above in temperatures exceeding 49 degrees Celcius.

This was a sponsored run by David for this Microscope and he is planning another Run from New Plymouth to East Cape to continue the Fundraising.

To see some of the achievements go to [www.manonfire.co.nz](http://www.manonfire.co.nz). One of the partners in this project is the NZ Fire Service.

## NZ FIREFIGHTERS WELFARE SOCIETY - HEALTHCARE 99

*A mutual fund owned and operated by firefighters.*

Have you thought about the rising cost of healthcare? All members of the New Zealand Firefighters Welfare Society are eligible to join Healthcare 99. This fund provides assistance to meet the increasing high medical costs of health care. A firefighter, partner and children up to age 19 can all belong to this fund. Should you leave the Fire Service for any reason you can continue your Healthcare membership. Children who turn 19 can then join the fund as an individual in their own right.

Currently the claim manager for Healthcare 99 is Aon NZ Limited. The schedule of contributions, range of benefits and conditions are published on our website, [www.firefighters.org.nz](http://www.firefighters.org.nz). In general there are two types of benefits:

OPTION A which pays for all medical costs incurred inside a public or private hospital up to a maximum of \$60,000 per event. Out of hospital costs are covered in full.

OPTION B pays for medical costs up to a maximum of \$60,000 per event. No benefit is payable under Option B unless the member is hospitalised in a registered hospital. Out of hospital costs are not covered by the fund. Prior approval is required from our Aon representative to be eligible for any benefit paid by Healthcare 99.

All claims must be submitted within 30 days of being incurred. Phone 0800 OK FIRE or 0800 643 473 for further information on the Healthcare 99 fund.



## ANSWERS TO THE AUGUST FIVE-MINUTE QUIZ:

Following are the answers from the quiz that appeared in last month's newsletter. The full quiz is available online at [www.ufba.org.nz/nzfbf/five\\_minute\\_quiz/august\\_2010](http://www.ufba.org.nz/nzfbf/five_minute_quiz/august_2010).

1. Clove hitch
2. Reef knot
3. Rolling hitch
4. Sheet bend or double sheet bend
5. Figure of eight
6. Double figure of eight
7. Vertical lift knot or 'sewer knot'
8. Alpine butterfly
9. Round turn and two half hitches
10. On acceptance, after repair, six monthly and after use (for lowering, rescue and safety lines).

The UFBA is proudly supported by:



**U.F.B.A**

**UNITED FIRE BRIGADES'  
ASSOCIATION OF NEW ZEALAND**

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