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RESPONSE

The official voice of Paramedics Australasia

Supporting our Pacific neighbours

PARAMEDICS
AUSTRALASIA

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Australian volunteers providing support

With support from Australian volunteers, within the next 10 years St John Ambulance will become the national provider of ambulance services in one of the world's most challenging geographies – Papua New Guinea.

COVER

Australian volunteer clinical support officer Sarah Bornstein alongside St John Ambulance Papua New Guinea colleague Jermaine Sarufa.

Photo courtesy Harjono Djoyobisono

with Peter Jurkovsky

A time of change

A warm welcome to the Spring Issue of *Response*, your member magazine.

Among the many offerings featured in this issue, we bring you a Q&A profile with Neil Kirby, CEO of Ambulance Tasmania; a day in the life of SA Ambulance Service community paramedic, Prue Cowell; and a profile on the professional team behind our peer-reviewed journal, the *Australasian Journal of Paramedicine*. Also in this issue we bring you an interesting insight into volunteering with St John Papua New Guinea; an excellent medico-legal article by Ruth Townsend and Michael Eburn on the controversial topic of pill testing; a timely piece for students on how to minimise exam stress; and a clinical article looking at magnet use for implanted cardiac devices.

> "We would love you to join us in 'broadening our horizons' at the paramedicine conference of the year"

With less than a month to go until PAIC 2019 in Hobart, you can also view speaker and program highlights from what will be an outstanding conference. Registrations are still open – including single day registrations – and we would love you to join us in 'broadening our horizons' at the paramedicine conference of the year. You can register for PAIC 2019 at **https://www.paic.com.au/**

Registration in New Zealand

Wonderful news from across the Tasman where, after many years of effective discussion and consultation by PA representatives, the first formal steps toward paramedic registration have been enacted. The Health Practitioners Competence Assurance (Designation of Paramedic Services as Health Profession) Order 2019 was published by the New Zealand Government on 21 October 2019.

The explanatory note states that the order comes into force on 1 January 2020 and is made under section 115 of the *Health Practitioners Competence Assurance Act 2003* and:

- designates paramedic services as a health profession; and
- establishes the Paramedic Council as the authority appointed to regulate paramedic services.

We look forward to continuing to support our New Zealand colleagues as they take this significant step in the professionalism journey.

PA and ANZCP merger

Both Paramedics Australasia and the Australian & New Zealand College of Paramedicine memberships voted in recent weeks to progress toward a merger of PA and ANZCP to form the single representative entity, the Australasian College of Paramedicine, during 2020.

The various communiqués and our monthly member eNewsletter, *Rapid Response*, have hopefully provided you with all the relevant merger facts over the past three months. We will continue to provide communications to ensure you are kept informed on the mechanics of a transition to the Australasian College of Paramedicine.

A personal thank you on behalf of myself, the Board and the executive on the strong endorsement from the membership in support of the merger at last week's extraordinary general meeting where numerous members spoke eloquently on the motions put forward.

As always, stay safe and I look forward to seeing many of you at PAIC 2019 in Hobart.

Peter Jurkovsky
President, Paramedics Australasia

RESPONSE | Q&A

Neil Kirby ASM commenced his ambulance career in 1978 as a volunteer ambulance officer. After a varied career that has included Regional Assistant Commissioner and Deputy Commissioner of the Queensland Ambulance Service, and Director of Operations for Dubai Corporation for Ambulance Services, Neil was appointed Chief Executive of Ambulance Tasmania in 2016. In this Response Q&A, Neil talks to us about the challenges of rural and remote service delivery and his vision for the future.

Q What attracted you to a career in paramedicine?

A When I was a 'young kid' I would love helping out on my parent's friend's farm by collecting the eggs from the chicken shed for subsequent collection by the Egg Board. With over 600 chickens, this was a big job. I would go down to the chicken shed after dinner at night with Jack, sit on an egg box (which I still have) and with sandpaper and steel wool, clean each egg and pack them into egg boxes for the Egg Board truck to collect. What's the connection you ask? Jack was the town's volunteer ambulance officer. He would fascinate me with stories of cases he had done. From then on, I yearned to be an 'ambo'.

Q Tasmania is the only state in Australia where the majority of its population lives outside a capital city. From an operations perspective, what special challenges and difficulties does this bring?

A My passion for many years has been rural and remote service delivery. Many years ago, I chaired the CAA Rural & Remote Working Group and was an inaugural member of the International Roundtable on Community Paramedicine. As Assistant Commissioner QAS I looked after a region that extended from Townsville to the Northern Territory border and from Birdsville to Mornington Island. The great challenge is to see that all people have access to appropriate health care. In Tasmania we need to ensure that people across the entire island have access to the care they need. With the introduction of interventions such as AEDs and HEMS, we have made survival for many people a reality where not so long-ago distance was a major limiter to health care. We have proven we can get health care to all people, wherever they are.

Q What are some of the unique challenges facing paramedics in Tasmania?

A Our population numbers are small. Yet our population is the oldest in Australia. We have the largest proportion of population not of tax-paying age. We are dispersed into small communities connected by minor country roads that are subject to ice in winter. We attract tourists who want to hike days into the wilderness (despite the best advice from their doctor). Matching our workforce to meet that diversity is the challenge. We would not survive without the great support from our volunteer ambulance officers and our resilient, dedicated and clinically focussed paramedics.

Q In 2017, Ambulance Tasmania's 'Keep your hands off our ambos' campaign drew complaints from around the state (the ad was later cleared by the Advertising Standards Bureau). Do you think awareness campaigns such as this are making a difference to violence against paramedics, and their mental health?

A I make no apology for defending and supporting our paramedics. In my younger years as an ambo the message I was told was "Put your patient first". That message needs to be expanded to "Put your patient and your paramedic first". I think the real benefit of that campaign was that it made known to the general public just how tough our job is. That is what it is and if that's confronting that tells me people do not realise that is what it is.

Q In November this year, the Paramedics Australasia International Conference will be held in Hobart, at which you are an invited speaker. What do you see as the single most important outcome of industry events such as this?

A Our focus should always be on clinical excellence. We have seen that continually evolve over the years and we continue to explore interventions that make a difference in the out-of-hospital field. I believe there are areas we need to continue to improve, including recognition of early signs of stroke onset and falls.

> "Matching our workforce to meet that diversity is the challenge"

My vision is this. Our call-takers to be recognised as the doorway into our health care system. Our system needs to mature to a point where it does not matter what a person calls for when they call our call-centre. To them, they have a health care need. But that is where my vision alters to much of current practice. Under current models, we dispatch an ambulance. My vision is that our call-taker takes that call for assistance, and places that person on a health care pathway that may or may not involve the dispatching of an ambulance. We become focussed on meeting the health care need rather than assuming transport to an emergency department is our only option. In so doing, appropriate triage will identify those patients who will benefit by the critical intervention of life-saving procedures and immediately receive them when that care is needed. That is where we as a profession can have the greatest impact on health care provision.

Q In 2004 you were awarded the Ambulance Service Medal for "contribution to the development of ambulance services in the areas of education and rural and remote provision". On a personal level, what did this award mean to you?

A The years leading up to 2004 were a 20-year roller coaster ride for ambulance. We went from holding first-aid certificates to an associate diploma (the forerunner to current university programs). A significant part of that process was the national curriculum developed by the Institute of Ambulance Officers. For the first time, drugs such as salbutamol and anginine were introduced. Then the defibrillator. The needs of rural and remote areas were recognised, and we saw the birth of projects that led to the modern-day extended care paramedic. The community paramedic model boomed across North America. My ASM was simply that I was able to be part of that journey and play a part in what, at the time, was a pretty major revolution.

Q And finally, there is much on offer for visitors to Tasmania. If you had to recommended one very special place that delegates attending PAIC 2019 should visit, where would that be?

A Tasmania is special for two reasons. The first is to touch history. Have a beer in Australia's oldest pub and take a stroll across Australia's oldest bridge and touch the past. The other is to immerse yourself in untouched natural beauty. Experience the rugged coastline, the majestic mountains, the forest rivers and the most spectacular waterfalls. And you can do all that before lunch!

PROFILE

A day in the life...

Name: Prue Cowell
Role: Intensive Care Paramedic and Community Paramedic
Location: Ceduna, South Australia

The community paramedic model in Ceduna is a flexible approach that looks for opportunities to link clients to local services such as GP clinics, Aboriginal community clinics, SA Health, the public health network and NGOs. The SA Ambulance Service community paramedic roster alternates weeks: a 76-hour, seven-day week, followed by seven days off.

My time is spent engaging with the itinerant Indigenous community. Most of our clients speak English as a second or third language. They may have complex social backgrounds and chronic medical issues, in combination with alcohol, substance and domestic abuse. Our primary aims are to improve access to health care, medication compliance, management of chronic health conditions and general wellbeing.

Most of (if not all) our clients grew up in Indigenous communities in remote South Australia (predominantly Yalata, Oak Valley and Koonibba), the Anangu Pitjantjatjara Yankunytjatjara lands and Western Australia. They are not accustomed to keeping a diary or schedule and have flexible travel and accommodation plans. Very few have a mobile phone; their preferred method of communication is face-to-face. They travel lightly with a backpack containing a set of clothes and blanket. Occasionally, they will bring their medications with them, but often they forget, lose them, or stay away longer than intended.

You cannot 'just' call a client to follow up, a bit of detective work is required – checking with the various providers and, if that fails, driving around town asking locals if they have seen them. I establish a timeline and follow the breadcrumbs. The most common 'hang outs' are the Aboriginal Drug and Alcohol Centre (Day Centre) and the Red Cross community hub. Both provide showers, meals, phones, internet and washing machines. If this fails, there is the Wangka Wilurrara Transitional Accommodation Centre (WWTAC) on the outskirts of town, which is run by SA Housing for people visiting from the communities or looking to transition into their own housing.

This is my day...

07:30 Arrive at the Day Centre – check in with staff. Usually the community paramedic assists with medication administration and delivery (tablets and insulin), wound care, both opportunistic and community nursing referrals, organising GP appointments, and health checks consisting of a regular set of observations with a focus on BP and BGLs (and fasting bloods, ePOC, HbA1c, CRP and triglycerides as required). This morning however, I have organised to pick up Sally, a 58-year-old Indigenous client. She lives in Yalata community but is regularly in Ceduna to see family, which can lead to poorer health care and alcohol abuse. She has spent the weekend in the Royal Adelaide Hospital after being flown out on Friday with lower leg cellulitis. Sally had returned to Ceduna via the hospital but didn't wait for her discharge antibiotics as they were "taking too long". The hospital called and asked if I had seen her, her medications were ready. I located Sally at her son's house.

> "Most of our clients speak English as a second or third language"

07:55 On the way back to the Day Centre, we stopped at Sally's cousin's house to get her blanket. While there, I chatted to a family with two young children – both with conjunctivitis – and organised for them to come to the GP clinic.

08:00–09:00 A busy morning at the Day Centre – lots of people in town for the long weekend and two funerals in the coming weeks; 60 people attended, 25 clients seen, 18 medications administered, and eight health checks completed. Successfully got Sally on the bus back to Yalata and called Tullowon (Yalata Community Health Clinic) to say she was on her way home.

09:00 Took the young family to see the GP regarding the children's conjunctivitis.

09:15 Headed over to the pharmacy to organise new Webster packs for six clients who were running low/out of medications or needed extra medications as they were going out of town.

09:45 SAAS emergency job – 77-year-old female in rapid atrial fibrillation – no ambulance crew as they are on a passive break until 1pm (they did four jobs while on call last night).

11:50 Contacted by a friend of an elderly client, 70-year-old Rita, who was in need of a fentanyl patch change. Picked up one from her file at the pharmacy and went to a residential address to replace her patch.

12:30 Contacted by Tullowon who are trying to track down three 'missing' residents of the aged care facility: Eve, Marge and Terry. Luckily, I had met all three this morning at the Day Centre. I told them Eve was still in Ceduna; and was asked to get Terry to call the clinic and reschedule an appointment in Port Augusta and get Marge to stay in Ceduna for the next two days to attend a specialist appointment on Thursday. I organised for Marge to be referred to the Step Down Unit (accommodation with Aboriginal care staff attached to the hospital) for two nights to facilitate this.

14:30 Called by the Day Centre, Carrie is not feeling well – Hx of recurrent UTI, observations reasonable but sweaty, abdominal pain – taken to ED for on-call GP appointment as I felt she couldn't wait until tomorrow. She had also run out of her Webster pack due to staying in Ceduna longer than expected, so I organised a new pack and took it to the SDU.

> "Occasionally, they will bring their medications with them, but often they forget, lose them, or stay away longer than intended"

15:30 Approached by Jonny (in town from Yalata), he has lost his medications. I called Tullowon to organise for his script to be sent to the local pharmacy and new medications to be picked up by SDU staff.

16:30 Called out to WWTAC for 67-year-old Jan – noted by housing staff to not leave her room/bed all day. Jan had a chest infection and was found to be septic with a temp of 39.0°C, HR 138, BP 125/70, RR 32, SpO2 91%. With some bargaining, I managed to get her to come to the ED for admission and IV antibiotics.

20:20 Called out to WWTAC for an elderly client from Tjuntjuntjara (a Western Australia Aboriginal community) who wanted paracetamol for a stomach ache. I had Tommy on my list of clients to look out for as he has multiple medical problems and has been away from community for some weeks. I will touch base with the health clinic in Tjunjun to let them know how he is going and when he is planning to return home (an 18 to 20 hours drive away). While there, I was approached by Mary, who has a toothache and known cavity, and asked if I could organise a dentist appointment tomorrow. She does not have a phone but will be hanging out at Red Cross during the day so will be able to find her there.

21:30 Time for bed!

*Names have been changed

Prue will be a presenter and panel discussion member at PAIC 2019.

The team behind the AJP

Paramedics Australasia President, Peter Jurkovsky, once referred to the AJP as being "One of the hidden gems among the range of offerings provided by PA".

And it's true! *The Australasian Journal of Paramedicine* – or the *AJP* as it is known – is the official open access, peer-reviewed international journal of Paramedics Australasia. The journal aims to advance and promote the science of out-of-hospital care research, management, education, clinical practice, policy and service delivery, as well as to provide a forum to respond to the professional interests of the multidisciplinary out-of-hospital care community. In this issue of *Response* we introduce you to the team behind the *AJP*.

> "We feel that the AJP is an under-utilised resource and we will be looking at ways of enhancing its footprint by investing in its ongoing development in the future – Peter Jurkovsky"

Meet the editorial team

Dr Mal Boyle
Editor-in-Chief

Mal is Academic Lead in Paramedic Education in the School of Medicine at Griffith University in Queensland and the driving force behind the *AJP*, having resurrected it from the ashes of the *Journal of Emergency Primary Health Care* in 2013. Since then it has gone from strength-to-strength with perhaps the biggest achievement thus far being the move in January of this year to continuous publishing, which has seen an increase of over 50 percent in the number of articles published.

Mal has researched extensively and is widely published, with over 200 peer-reviewed papers published internationally and has, to date, almost 30,000 reads (a 'read' is counted each time a person views a publication summary, such as the title, abstract and list of authors, clicks on a figure or views or downloads the full-text).

Professor Brett Williams
Associate Editor

Brett is Professor and Head in the Department of Community Emergency Health and Paramedic Practice in the Faculty of Medicine, Nursing and Health Sciences at Monash University in Victoria. Brett has been an academic leader in out-of-hospital educational research, scholarship and mentorship for over 15 years and has published over 250 peer-reviewed papers, 10 book chapters and co-edited two textbooks. Brett is committed to developing and finding the next generation of paramedic PhD scholars, professionalising paramedic care, building capacity for paramedics nationally and internationally and developing a contemporary paramedic curricula. He has supervised six PhDs to timely completion and currently supervises 16 paramedic PhD scholars.

Dr Graham Howie
Associate Editor

Graham is a Senior Lecturer in the Paramedicine Department at the School of Clinical Sciences, Auckland University of Technology. Graham has spent his entire adult life in the ambulance world – as a front-line paramedic, as a station officer, as a clinical coach and as a teacher and program leader within ambulance education. His PhD is in physiology, looking at fetal development of the pancreas and insulin regulation. (In a small animal model – and, curiously, Graham was the only person in the lab who had ever seen a diabetic patient – let alone treated one!) Graham teaches resuscitation physiology and provides supervision for higher degrees in topics such as management of acute coronary events, out-of-hospital cardiac arrest and resuscitation.

Dr Gavin Smith
Associate Editor

Having recently completed a five-year tenure as Chair of Paramedicine at Victoria University, where he sat on the VUHREC and Gender Equity Committee, Gavin has returned to Ambulance Victoria as a registered MICA paramedic to continue his 28-year career in clinical paramedicine. Gavin's PhD thesis enabled the development and implementation of a new clinical practice guideline for supraventricular tachycardia (SVT) management in Victoria and Tasmania, and three publications have recently been used to provide evidence for the European Society of Cardiology Guideline for SVT Management (2019). Gavin is well-published and cited in peer-reviewed journals and maintains a focus on the development and enrichment of paramedic students and the field of paramedicine, including supervision and examination of PhD and Master students locally and internationally. Gavin is currently a Councillor of the Royal Society of Victoria and is the first paramedic to be admitted to this prestigious scientific institution.

Dr Alex (Sandy) MacQuarrie
Associate Editor

Sandy is Senior Lecturer in the School of Medicine at Griffith University in Queensland. An experienced Canadian paramedic, educator and senior manager, Sandy is now teaching and researching in Australia and has completed a PhD examining the health status of paramedics and how it affects job performance.

Dr Peter O'Meara
Associate Editor

Peter is Adjunct Professor in the Department of Community Emergency Health & Paramedic Practice at Monash University in Victoria. He is also the Acting Chief Executive Officer of Mobile CE and a Director of the Global Higher Paramedic Education Council, based in the United States. Peter's research focus in recent years has been the evolution of community paramedicine. He has published extensively on this and other paramedicine related topics, including one book, 10 book chapters and over 75 peer-reviewed papers. Peter has been a member of the Bendigo Health Care Group Human Research Ethics Committee since 2014 and more recently has been elected to the Board of the National Rural Health Alliance (Australia).

Meg A'Hearn
Editorial Assistant

Meg has been the Editorial Assistant on the *AJP* since February 2014, working quietly behind the scenes to facilitate the publication of paramedicine research and to ensure the peer review process runs smoothly. Previous to this, Meg worked for 10 years as the Editorial Assistant on *Australian Family Physician* (now the *Australian Journal of General Practice*), the peer-reviewed flagship journal of the Royal Australian College of General Practitioners. Meg holds a Bachelor of Arts, and is also PA's Membership Co-ordinator.

Denese Warmington
Production Editor

Denese has been a part of the *AJP* team since late 2014. She has over 20 years' experience in the production editing of academic and clinical publications and holds specialist knowledge in the field of clinical, research and academia publishing, earning her stripes at the Royal Australian College of General Practitioners where she worked for over 15 years.

Denese is a member of the Australasian Medical Writers Association and the European Association of Science Editors (EASE). She also works as a freelance editor on other peer-reviewed publications including *Medicine Today* and the *Journal of Medical Radiations Sciences*. And if the name sounds familiar, it is! Denese is also the editor (and sometimes writer) of *Response* and writes PA's monthly eNewsletter, *Rapid Response*.

Highlands, coast and cities

How Australian volunteers are supporting St John Ambulance in Papua New Guinea

Although it has been in operation for more than 90 years, St John Ambulance in Papua New Guinea is currently undergoing rapid growth. With support from Australian volunteers, within the next 10 years St John Ambulance will become the national provider of ambulance services in one of the world's most challenging geographies.

Papua New Guinea is one of the world's toughest environments. Communities are dispersed through some of the most challenging landscapes, from dense jungle in the mountainous highlands to rugged coastland spread across more than 600 islands. Roads are extremely limited, which can make travelling to an emergency in an ambulance impossible.

The team at St John Ambulance are trying to achieve something incredible. They're building a national ambulance service in an environment where planes, boats and troop carriers are regularly called on to reach those in need of help.

That challenge, for Australian volunteer Pat Duggan, is part of the appeal.

"One of the best bits of my role was working with the whole team out on the road; heading off in a troopy or a plane to help someone who wouldn't have been able to get treatment until recently," said Pat.

For 90 years St John Ambulance has provided Papua New Guinea's only co-ordinated and free ambulance service. While it has been around a long time, it's currently undergoing a major growth spurt. Over the next year, the service will expand to regional cities Lae and Kokopo, and within a decade, will become a completely national service, thanks to an agreement with the government of Papua New Guinea.

As the service has expanded, so has demand – there's been a 180 percent increase in requests for service in the past year. The increase in requests is being helped, in part, by their secret weapon. A reality TV show!

Ruth Daniel is a dispatcher at St John Ambulance Papua New Guinea

Sarah Bornstein alongside St John Ambulance Papua New Guinea colleague Benjamin Ume

'Green Angels' follows paramedics and staff from St John Ambulance as they provide life-saving emergency medical support around the capital Port Moresby and Papua New Guinea's mountainous Central Region.

"Green Angels is the first reality show in Papua New Guinea, and it was an absolute hit. It's played a big part in getting the community aware of St John Ambulance, the role of emergency clinicians on the road, and the challenges we deal with," said Pat.

Pat arrived in Papua New Guinea in 2018 as a volunteer paramedic support officer, and is one of eight Australians who have volunteered as paramedics, paramedic educators and clinical support officers in the past 18 months.

> "It's such a nice feeling knowing that the skills we pass on to the staff here can make such a tangible, lasting change"

Australian volunteers helped co-ordinate incident management during the 2018 Asia Pacific Economic Cooperation (APEC) meeting, developed clinical practice guidelines and have trained and supported local St John Ambulance staff. One developed a first-aid program for schools that has since gone national.

At that APEC meeting, the Japanese government donated 21 ambulances, which the team were able to retrofit for local use.

"The team has seen incredible changes in 12 months – new ambulances, an international-standard call centre, better kits for crews," said Pat.

"The team are now operating at a really high standard... they're able to respond better, and more efficiently, in an environment where small delays can be the difference between life and death."

Like Pat, Sarah Bornstein has seen the transformation in the ambulance service in a short period of time.

Sarah took her background in emergency nursing to Papua New Guinea, where she volunteered through the Australian Volunteers Program for three months as a clinical support officer with St John Ambulance. After working in central Australia she was looking for the next challenge.

"Working in emergency services, there's this sense of adventure that we all share," said Sarah.

Kerry Suapi, part of the team at St John Ambulance, Papua New Guinea

Sarah Bornstein alongside St John Ambulance Papua New Guinea colleague Jermaine Sarufa

"Volunteering in Papua New Guinea felt like a natural progression for me."

Living and working in Papua New Guinea comes with its challenges – it's easy to forget that somewhere this uniquely different to Australia is only an hour's flight from Cairns.

"The landscape is the most noticeable thing for me. The mountains you drive over, and the roads... I've done some medical evacuations that have been an intense experience, and on the way you're passing this incredible jungle landscape," said Sarah.

Safety and security of volunteers in Papua New Guinea is a priority for the Australian Volunteers Program (as it is in all of the countries the program operates in). Volunteers take certain precautions by and have access to 24-hour security support as needed.

An aerial view of lush, mountainous Papua New Guinea, near Lae

For Sarah, the safety precautions were something that was straightforward to adapt to.

"Volunteering with the Australian Volunteers Program has meant a safety net... the support provided is incredible," said Sarah.

The program also supports volunteers with airfares, medical and travel insurance, living allowances, training, and a dedicated in-country support team. This support allows volunteers to get on with the job of delivering sustainable, lasting change.

"We could come here, work on the road and impact a few lives, and then be gone back to Australia – and the ambulance service would still be the same," said Sarah.

"Instead we're able to educate, train, pass on skills. When we're gone there'll be so much improvement, and it's such a nice feeling knowing that the skills we pass on to the staff here can make such a tangible, lasting change."

For Sarah and Pat, it's the personal and professional development, memories and friendships (both with their colleagues and other volunteers) that will outlast their time in Papua New Guinea. Both agreed that it's the people they've met and worked alongside that have made the experience special.

The Australian Volunteers Program is an Australian Government initiative that supports skilled volunteers in 26 countries as part of Australia's aid program. For more information about the Program, or to learn more about how to take your emergency medicine skills overseas, visit **www.australianvolunteers.com**

Images courtesy Harjono Djoyobisono / Australian Volunteers Program

Paramedics, politics and pill testing: Is this our lane?

by Ruth Townsend and Michael Eburn

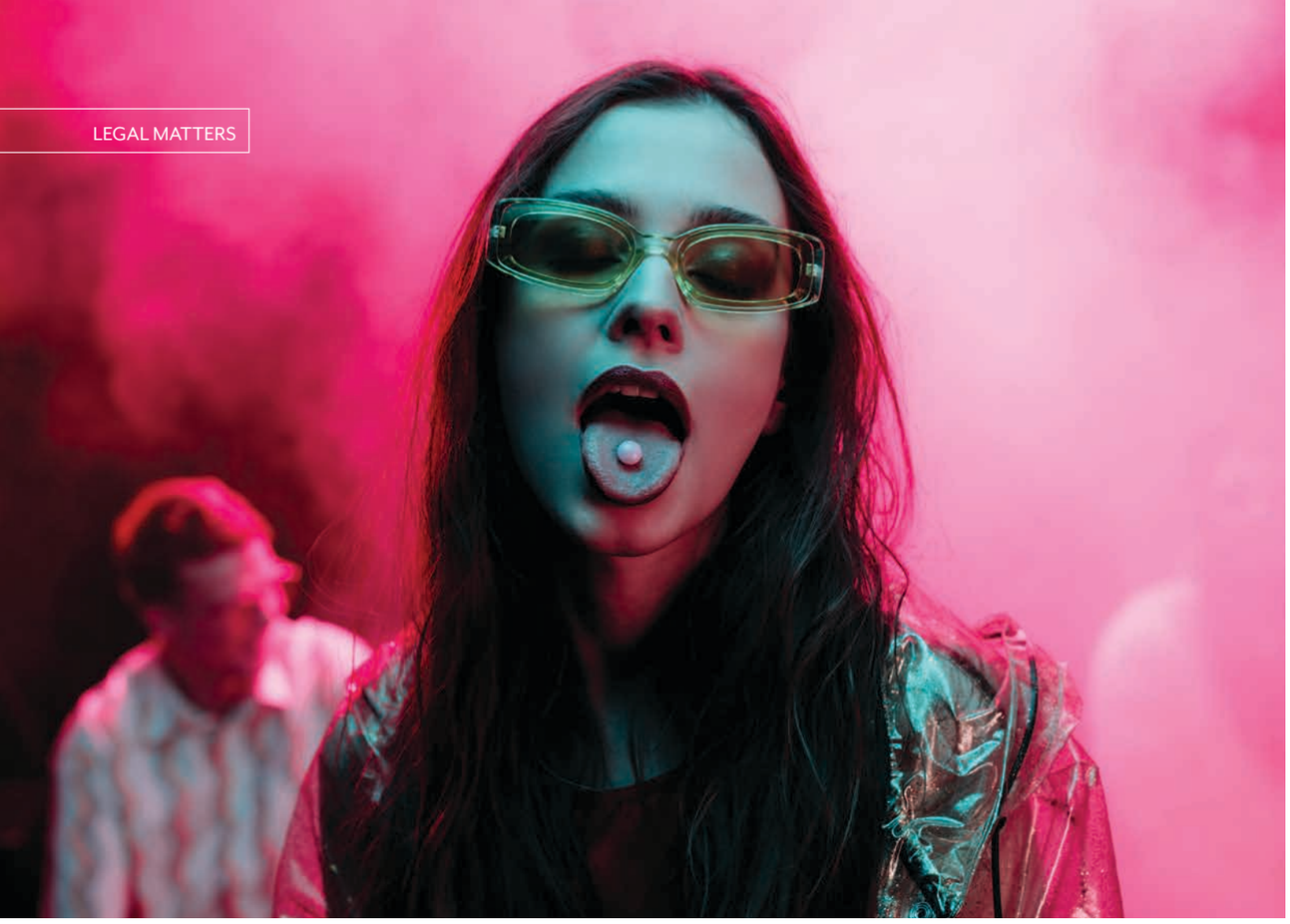
The first official pill testing at an Australian music festival was conducted at Groovin' The Moo in Canberra on 29 April 2018. However, pill testing is still not generally permitted and may expose those conducting the test (depending on adopted procedures) to allegations of possessing and/or supplying a prohibited drug.

The issue surrounding pill testing has been argued as both a public health issue from health advocates, and a criminal issue by politicians. Eburn has written and spoken about the legalities of pill testing previously, and numerous other authors have written about the benefits and risks of pill testing.[1-7] There has also been a large amount of material developed and promoted by doctors advocating for pill testing as a public health concern.[8,9] But what is the role in this debate for paramedics and paramedicine? Is this a topic that should even concern them?

In September 2018, 23-year-old Joshua Tam and 21-year-old Diana Nguyen died at the Defqon1 festival. In response, the New South Wales Government rushed through a new law making it a crime to supply drugs that cause death.[10] Unfortunately, there is evidence that these types of laws do not only not make people safer, they can in fact make people less safe and this response has been criticised for being a 'quick fix for a complex public health problem'.[11] Further, the New South Wales Government rushed through new requirements for music festivals.[12,13] These 'rushed' guidelines threaten to close some festivals and lay responsibility on organisers for conduct they cannot control, rather than looking to deal with, and prevent, foreseeable health emergencies. These are health emergencies that are arguably avoidable if pill testing is allowed, but if it is not, it is likely that paramedics and ambulance services are going to be involved in the care of those who are adversely affected by both drugs and the policy decisions of government to refuse to allow pill testing.

> "As experts in out-of-hospital health care and in particular emergency health care, paramedics have a unique voice and experience to bring to the debate"

Pill taking at festivals is an area of concern for paramedics because paramedics are often at the frontline of out-of-hospital care with regards to drug taking and any subsequent health crisis experienced by a patient, including at music festivals. This means that the topic sits firmly within paramedicine's area of expertise. Given paramedicine's newly professional status and the ethical responsibilities that come with that status, should



paramedics individually (and collectively) be providing more support to their fellow health professionals and the public to advocate and lobby governments on the need for pill testing to be considered a public health issue?

Virtue ethics in the Aristotelian sense, refers to an action being virtuous and therefore ethical, if the action is taken in accordance with the actor's purpose. In the case of paramedics, and paramedicine, the question becomes what action should you take to be consistent with your purpose and in so doing act virtuously and ethically, particularly when it comes to engaging in public health promotion? The privileged position that paramedics and ambulance services enjoy in terms of the millions of interactions they have with the public every year, along with the high level of trust they hold, mean that they are in a position to promote public health measures. Although the issue of pill testing is contentious, there is evidence of other health professionals engaging successfully in political lobbying to help improve health outcomes for a group overlooked by politicians. For example, Doctors for Refugees has continuously raised concerns with the Federal Government about the health impacts of the poor conditions experienced by asylum seekers in immigration detention for many years. This year, 6000 doctors and medical students (5 percent of the medical workforce) signed a petition requesting the Federal Government do more to facilitate better health care for those in immigration detention. This political lobbying resulted in a legislative change. In addition to lobbying government and using the media to promote a position, various medical associations have also developed position statements.[14]

This use of professional political power for the greater good is consistent with sociologist Eliot Freidson's argument that in order to be recognised as a profession, an occupational group should have an element of altruism, that is, a commitment to promoting the greater purpose of providing moral goods in the public interest. This requirement is not something that the gaining of legal professional status alone will confer; rather it is often established in conjunction with the ethos of professionalism. Indeed, for paramedics as incipient health professionals, their status as professionals – holding specialised expert knowledge and skills in a particular area of health care and their peer-to-peer governance by principles of professionalism – combined with their power to self-regulate, will provide them with an independence that allows and may at times require them to judge, criticise or disobey 'employers, patrons and the laws the state'.[15] Freidson argues that professions, as a powerful collegial body, can and should provide a strong voice in 'broad policy-making forums', including in situations where services are not able to be provided to those who may benefit from them, which, in the case of paramedics may be health care, as professionally unethical. Indeed, the Code of Conduct issued by the Paramedicine Board of Australia states, at 5.4, that 'Practitioners have a responsibility to promote the [public] health of the community through disease prevention and control, education and, where relevant, screening'.

In short, now that paramedics are registered health professionals, they arguably have an obligation to engage in public health promotion including advocating for the use of public health measures that may be politically controversial. That does not mean that paramedics must adopt or support pill testing. As noted, it is a controversial procedure and no doubt those that oppose it have genuine reasons for doing so. The role for paramedics, and paramedicine, however, is to lead the debate, not simply accept the status quo or to argue for or against pill testing without due professional consideration. As experts in out-of-hospital health care and in particular emergency health care, paramedics have a unique voice and experience to bring to the debate. To exercise leadership the leaders of the profession should reflect on the research and their own experience to bring to the debate a professional uniquely paramedic focus. It is not enough to simply accept that others will be making decisions that will impact people that paramedics will be called to treat and the work environment of paramedics. We would hope that, in order to demonstrate leadership on this issue, the heads of all the state-based ambulance services should make a public statement in support of pill testing on the basis of harm minimisation, even if such a position conflicts with the position of the respective state health minister. This would set the tone for the new profession as being one brave enough to stand up to their political masters in the interests of the public good. It would also stamp the territory for paramedics around what we think is clearly their domain – health care at music festivals and other uncontrolled environments – and that paramedics take the clinical lead on these events not medicine. The time to assert their expertise is now, given the problem sits very clearly in the out-of-hospital domain.

About the authors

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References

1. Eburn M. Available at https://www.abc.net.au/radio/programs/pm/legal-expert-says-pill-testing-can-be-done-without-breaking-law/11343618
2. Eburn M. Available at https://emergencylaw.wordpress.com/2019/01/17/pill-testing/
3. Ritter A. Six reasons Australia should pilot 'pill testing' party drugs. Drug Policy Australia (online) 20 December 2018.
4. Willis O. Six claims about pill testing — and whether or not they're true. ABC Health (online) 15 January 2019.
5. Zhuang Y. What is pill testing? The Sydney Morning Herald (online) 2 January 2019.
6. Deakin University. Why pill testing has never been trialled in Australia. Deakin University (online, undated).
7. Scholefield A. Will pill testing prevent drug deaths? Encounter Youth (undated).
8. Duff E. Pill testing trial to begin at Sydney music festivals, vows drug expert Alex Wodak. The Sydney Morning Herald (online) 28 February 2016.
9. Boddy N. Canberra doctor behind push for pill testing trial at music festivals. The Canberra Times (online) 28 February 2016.
10. New South Wales Consolidated Acts. Available at http://www5.austlii.edu.au/au/legis/nsw/consol_act/ca190082/s25c.html
11. Elyse M. Dancing with death, why the NSW homicide offence of drug supply causing death may do more harm than good. 2019. 43 Crim LJ 215.
12. NSW Government. Guidelines for music festival event organisers: music festival harm reduction – September 2019. Available at https://www.health.nsw.gov.au/aod/Pages/music-festival-guidelines.aspx
13. Eliezer C. Controversial NSW festival licensing laws officially scrapped. The Music Network (online) 26 September 2019.
14. Australian Medical Association. Health care of asylum seekers and refugees – 2011. Revised 2015. Available at https://ama.com.au/position-statement/health-care-asylum-seekers-and-refugees-2011-revised-2015
15. Freidson E. Professionalism: the third logic. Polity Press, 2001.

PARAMEDICS AUSTRALASIA

PAIC19

Speaker highlights

Hosting an impressive line-up of over 60 inspiring and motivational speakers, PAIC 2019 will truly broaden your horizons. Below are just are few speaker highlights from a richly educational program. For full details of all our PAIC 2019 speakers and to register for the paramedicine conference of the year, visit **www.paic.com.au**

Tom Harkin

Founder, Tomorrow Architects

It's okay to be human

Tom is one of Australia's pre-eminent advanced facilitators and coaches, passionate about challenging traditional stereotypes in the community and in the workplace. Tom aims to create training grounds that build genuine emotional intelligence to thrive, connect and collaborate in the world of today and tomorrow.

Anne Urquhart

Labor Senator for Tasmania

Where to now? The people behind ooo: mental health of our first responders

Senator Urquhart successfully proposed a Senate Inquiry into addressing the mental health conditions experienced by first responders, emergency health workers and volunteers. The Education and Employment References Committee reviewed over 160 submissions, with 14 key recommendations made. How will the paramedicine profession tackle the recommendations and participate in the solutions? What is the role of government, employers, and Paramedics Australasia as the peak body for paramedicine in Australasia?

Alexander Wolkow

Research Fellow, Monash University

Fitness for duty – sleep

A Research Fellow at the Turner Institute for Brain and Mental Health, Alexander has an interest in health interactions in occupational settings and will participate in a concurrent stream focussed around fitness for duty. Alex is particularly interested in understanding the role of sleep in the development of mental and physical health symptoms in shift-working populations including emergency services personnel. His goal is to lead applied sleep research that promotes the health of these workers, including paramedics.

Han-Wei Lee

Project Manager, Ambulance Tasmania

Courage in paramedicine

Ambulance Tasmania's Han-Wei Lee and his colleague Anna Ekhals were first to enter the deep Midnight Hole Cave where a French female caver had fallen five metres and lay stranded with a broken leg. Due to the cave's remoteness and challenging location, the gruelling and complex 12-hour extraction involved Tasmania Police, paramedics, volunteers, the SES and two rescue helicopters. How did Han-Wei, recipient of a 2018 Australian Search and Rescue Award, rise to the challenge and make a significant contribution to this extraordinary rescue.

Michael Stuth

Managing Director, The Wild Medic Project

Out of the ordinary – the wild paramedic

Michael is an advanced care paramedic currently working in a remote town in central Queensland. He is also co-founder of the international humanitarian platform, 'The Wild Medic Project'. Michael has a compassionate drive to bring basic primary health care and education to remote communities, which has been the catalyst for recent health care projects in Timor-Leste, Nepal and Samoa. Michael will share his diverse career and the challenges paramedics face in austere and challenging environments and participate in a session on building capacity and volunteering in EMS.

Paramedics Australasia International Conference

PAIC19

BROADENING HORIZONS

28–30 NOVEMBER 2019

Wrest Point • Hobart • Tasmania

The Hon Sarah Courtney MP

Sarah was elected to the Parliament of Tasmania in March 2014, representing the seat of Bass. After the 2018 election, the Premier appointed Sarah to Cabinet where she serves as Minister for Health and Minister for Women.

Neil Kirby

Neil is the CEO of Ambulance Tasmania and was awarded the Ambulance Service Medal for his contribution to the development of ambulance services in the areas of education and rural and remote provision. (See Neil's profile on page 4.)

Alan Eade

Alan is the Chief Paramedic Officer based at Safer Care Victoria. He is the senior paramedic professional voice for government, and also one of the chief clinical officers leading quality and safety activities across the health system.

Bronwyn Tunnage

As Research and Postgraduate Leader in the Paramedicine Department at the Auckland University of Technology, Bronwyn's priorities are growing research capacity and capability within the discipline.

Mitch Mullooly

Mitch is a paramedic and flight paramedic with St John New Zealand, Chair of the New Zealand Chapter of Paramedics Australasia and a paramedic health and wellbeing coach.

Iestyn Lewis

Iestyn is an emergency and hyperbaric physician based at the Royal Hobart Hospital, splitting his time between the Emergency Department, Hyperbaric Medicine Unit and the Complex Wound Clinic.

Prue Cowell

Prue is an intensive care and community paramedic practising in regional South Australia. She has a passion for community engagement, complex case management and education. (See Prue's profile on page 6.)

Buck Reed

Buck is an Associate Lecturer in Paramedicine at Western Sydney University, and a registered paramedic. Buck was the first rural-based paramedic to receive a prestigious Churchill Fellowship.

Dave Brown

Dave is an intensive care flight paramedic and wilderness paramedic with Ambulance Tasmania and has facilitated wilderness and expedition medicine courses for 15 years.

Rose Forrester

Rose is an intermediate life support paramedic with ProMed New Zealand, who enjoys the dynamics and challenges of working in remote areas and events.

PARAMEDICS AUSTRALASIA

PAIC19

Paramedics Australasia International Conference

PAIC19

BROADENING HORIZONS

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Program highlights

With an outstanding program covering a wide range of topics; exciting hands-on pre-conference workshops; concurrent sessions; abstracts and case studies, PAIC 2019 offers something for everyone under the theme of 'broadening horizons'. For full details of workshops and conference sessions, and to register for PAIC 2019, visit **www.paic.com.au**

Pre-conference workshops

Introduction to tactical emergency casualty care for paramedics

This workshop will expose delegates to tactical emergency casualty care and operations in indirect and direct threat environments. Led by Brett Marais, a former special operations rescue medic, this workshop will conclude with a live scenario where participants will put into practice the skills learned during the session.

Paediatric skills masterclass

Led by QAS Clinical Director Tony Hucker and Critical Care Paramedic Prue Sneddon, this masterclass will concentrate on precision and repetition to help participants hone their psychomotor skills and have confidence in treating paediatric emergencies.

Ultrasound masterclass

Paramedic point-of-care ultrasound is increasing in the out-of-hospital setting. In this hands-on workshop, delegates will work in small groups to gain knowledge around the all-important basics including anatomy, ultrasound acquisition, eFAST and IV access.

Building mental health and wellbeing: cultivating resilience

This workshop will consider the importance of mental health and wellbeing in managing and preventing the impacts of work on health professionals.

Primary care and wound management

This workshop is for paramedics who want to take their assessment skills to the next level. It will focus on presentations that, although not an immediate emergency, can be complex and risky for the patient if the correct approach is not utilised during the clinical examination and evaluation phase of patient assessment.

Wilderness paramedicine on Mt Wellington

Led by Dave Brown, an intensive care flight and wilderness paramedic, this workshop will take a small group to several bush locations to develop an understanding and evaluation of medical care in remote and austere environments.

Research masterclass

Whether you're just starting out, looking to start a project or a moderately experienced researcher, this workshop will provide a unique and collaborative opportunity to improve your research skills.

Conference sessions

Paramedics doing the extraordinary

Four paramedics, four incredible tales. Featuring Han-Wei Lee, Alan Eade, Simone Haigh and Bronwyn Tunnage, this session aims to inspire you to do the extraordinary. This session also includes a panel discussion.

Building capacity and volunteering in EMS

This session features five inspiring stories from paramedics providing out-of-hospital health care to communities across the Asia-Pacific – in Nepal, Papua New Guinea, Vanuatu, Timor-Leste and Australia. Includes a panel discussion.

The future of paramedicine regulations and education

This session features leaders in the field and covers: Reflection on the first year of national paramedic registration and re-registration process, advertising guidelines, notifications, mandatory reporting, postnominal protocols and professional capabilities consultation; the Paramedicine Accreditation Committee and accreditation in the National Scheme; and the Australasian Council of Paramedicine Deans – representation of the Australasian paramedicine higher education sector.

10-minute clinic

Three short and sharp presentations designed to brush-up your clinical knowledge: anaemia; CBRN emergencies; and snake bite.

Concurrent sessions

Four sessions guaranteed to challenge your thinking and broaden your professional horizons: fitness for duty; community paramedicine; out of the ordinary; and education.

Masterclass in substance use at festivals

This session features a discussion on substance use at festivals and the role of health care professionals. Covering the following topics: pill testing, with David Caldicott; the New Zealand experience, with Mitch Mullooly; and the Australian experience, with Ethan Dooley. This session ends with a panel discussion.

Best of the best

Showcasing the UK EMS999 2019 best paper winner and PAIC 2019's three best abstract submissions – who will take home the prize for best abstract at PAIC 2019?

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AMBULANCE TASMANIA

Exam stress: What is it and how can I manage it?

A little stress around exam time can be a good thing, as it motivates you to put in the work. But sometimes stress levels can get out of hand, particularly at the end of an academic year.

When you become stressed, the sympathetic branch of the autonomic nervous system gets switched on. Initially this is a good thing, because it is the activation of this system that releases the neurochemical adrenaline – and this stimulates you to get going and focus on your work. But the problem starts when periods of stress become prolonged.

When this happens, the sympathetic branch stays permanently on, pouring adrenaline into the body and keeping you on high alert. This causes you to worry more, experience anxiety and depression, lose sleep, become forgetful, irritable, overwhelmed, exhausted and feel out of control. This can really impact on your ability to prepare for your assignments and exams, as well as negatively affect your levels of performance and sense of wellbeing.

What can you do?

A simple and very practical step is to develop a plan of action by preparing well and organising your time and workloads. This will help address that 'out-of-control feeling'. A second step is to begin to understand the physiological responses going on in your body and try to adjust them.

As its name suggests, the automatic nervous system is not under your direct control. But you can learn techniques to help you manage how you are feeling and to relax or calm down. If you can do this, then the second branch of the automatic nervous system, the parasympathetic branch, can switch on.

This branch works in opposition to the sympathetic branch and releases neurochemicals into the body that can support and maintain a sense of calm – facilitating a relaxed and focussed state. Practising mindfulness, mediation, yoga, thought stopping and breathing techniques can all help to keep this system healthy and switched on.

> "The trick is to learn to breathe deeply by drawing your breath down into the abdomen"

Breathing techniques offer a quick and effective method. They are easy to learn and can be practised any time, any place, anywhere – because your breath is always with you. The trick is to learn to breathe deeply by drawing your breath down into the abdomen. This stops shallow breathing which is linked to stress and panicking.

You can try simple breathing techniques and practise them when you feel you are beginning to feel stressed out. You might be surprised about how quickly you start to feel more in control of your stress and anxiety.

STUDENT WELLBEING

What about mindfulness?

Mindfulness is a more advanced technique, focussed on being fully present in the moment and experiencing what is going in and on around you as that moment unfolds. When you learn how to do this, you find you are able to focus your attention on the task at hand – in this case your assignments or exams. Mindfulness also helps you to practise feeling calm in the mind and the body by releasing those neurochemicals that switch on the parasympathetic branch of the automatic nervous system.

> "Eating well, engaging in physical exercise, taking breaks from study and getting enough sleep all ensure that your stress levels are kept under control"

Studies have shown this can actually enhance your performance and sense of wellbeing. Try simple mindfulness meditation and practise it at least once a day to give yourself the opportunity to see if it makes a difference. Pay attention to how you feel before the practice and after you practice. This will help you to decide whether it's an effective tool for you.

What else can I do?

A real positive of all these techniques is that they teach you to become aware of what you are actually thinking at any one time. Thoughts are frequently negative harbingers of failure and fear. Once you are aware of this, you can learn to adjust negative thinking into a more positive stance or to let them flow over you rather than control you.

Balancing how you spend your time is also important. Eating well, engaging in physical exercise, taking breaks from study and getting enough sleep all ensure that your stress levels are kept under control.

You also need to try and balance your drive for performance in your exams and assignments with doing things that are personally meaningful to you in your life. This is important, as research has shown that this is essential to your health and wellbeing. And it will also help you to feel more balanced and calm during those exams and in the run up to results day.

About the author

Teena Clouston is a Reader in Occupational Therapy, Life Balance and Wellbeing at Cardiff University. This article is republished from The Conversation under a Creative Commons license. Read the original article.

How often do you *really* need to work out?

by Mitch Mullooly

A question I get asked a lot is: "How often do I *really* need to work out to meet my goals?" The answer is: it depends on your body and your personal goals. For example, someone trying to lose 10 kilo is going to need to work out more often than someone trying to maintain their weight, just as someone looking to boost their strength and conditioning will need to work out more often than someone just wanting to look their best in a swimsuit. Below are some guidelines on how often to work out based on what your goals might be.

Goal: losing weight

This probably won't come as a big surprise, but for the most part, the more often you are able to work out, the quicker you'll see results.

If you're just starting out, I'd suggest aiming for two to three high intensity interval training (HIIT) workouts a week and trying to get active on most other days, such as going for a long walk or taking a bike ride. Find an activity that you enjoy and look forward to on your non-workout days to reinforce the idea that being fit is part of a healthy lifestyle.

If you're more advanced or have been working out consistently for a while, you can aim for four or more days a week of HIIT.

One thing to keep in mind though, is that while establishing a consistent workout schedule is incredibly important when you're trying to lose weight and keep it off, nutrition can't be ignored. If you're working out consistently and still not losing weight, it's time to re-evaluate what you put in your mouth!

Goal: building strength

If your goal is building strength, the key is less about frequency and more about intensity. If you only work out two days a week but work really, really hard during those workouts and push yourself to the max, you will be noticeably stronger in a few months. Some people will see significant strength gains within a few weeks, especially if starting closer to a beginner level (it's harder to gain strength quickly once you get to a more advanced level).

Of course, if you want to supercharge your strength gains, working out more often is only going to help you get stronger faster. Most people do well on a three to five day workout schedule with a few rest days a week.

And if your goal is to put on muscle, you'll have to boost the intensity even more, doing the hardest version of the exercise you can manage, even if that means you have to switch to a modified version part way through the set in order to complete it. For example, a good way to build leg muscle and get strong quickly is to do as many full pistol squats as you can and then immediately switch to a modified version (such as holding onto a door frame) when you can no longer do the full version.

Goal: getting athletically fit

Those looking to get athletically fit are a special breed, because often the hardest thing is not making sure you work out enough, but making sure you get enough rest. For many it's tough trying to get the right balance, which often depends on how quickly your body recovers.

For this group, usually the more training the better, especially if looking to gain endurance. This might mean that you work out six days a week, but also include active recovery sessions such as foam rolling, stretching or yoga. And as long as you're feeling good in your workouts, you should be fine working out this often.

HEALTH AND WELLNESS

> "It depends on your body and personal goals"

However, if you're starting to lose motivation, or getting sick all the time or keep getting injured, then you're most likely overtraining and need to cut back by working out less often or lowering the intensity of your workouts a few days a week to give your body more rest.

Have fun with your fitness

Although it may not be this way at first, I'm hoping, like me, that you feel better when you're active on a daily basis. I have four scheduled workouts a week, and this is a good balance for me, combined with active rest days (and obviously shiftwork), however every day I do some type of movement for at least 30 minutes.

Be mindful about where you are at and your energy levels. If you're feeling burnt out from working out or you're feeling overly fatigued rather than energised (like you should feel) it's probably a good sign that it's time to take a break. Sometimes taking a week off from training every couple of months to give your body an extended break can be beneficial. Remember the key is to listen to your body and to keep track of your progress so you know whatever it is you are doing is working or not.

If your goal is to get leaner, you may want to measure your body fat percentage every few weeks or so, or take measurements, just as if your goal is to get athletically fit you may want to redo a standard fitness test each month in order to see if you need to make any changes to your routine. Ultimately, you'll need to figure out what the right workout schedule is for you, keeping in mind that being fit and healthy isn't a race, but a lifestyle to embrace for the long-term, especially in our careers.

Check out more fitness and wellness tips and challenges at the Team 'Fit for Duty, Fit for Life' Fitness and Wellbeing Challenge page at www.facebook.com/groups/1375168269191426/

About the author

Mitch Mullooly MPA is a paramedic and flight paramedic with St John New Zealand, Chair of the New Zealand Chapter of Paramedics Australasia, and a paramedic health and wellness coach. Mitch will be a presenter and fitness facilitator at PAIC 2019.

Magnet use for implanted cardiac devices

by Tim Bonser

Automatic implantable cardiac defibrillators form about 10 percent of all cardiac rhythm management devices implanted annually in Australia.[1] Manufacturers of AICDs constantly work to avoid what is called an 'inappropriate shock' – the delivery of high voltage cardioversion in a setting other than ventricular fibrillation or tachycardia. This article examines and considers the value of placing a device magnet on board emergency ambulances for use in patients receiving inappropriate therapy in the out-of-hospital setting in order to return the device to normal function.

Delivery of inappropriate therapy to the conscious patient may cause extreme anxiety, long term psychological issues, difficulty accepting the device, battery depletion issues and in rare cases, induce a potentially lethal arrhythmia. There are many causes for inappropriate therapy with the most common being rapidly conducted atrial arrhythmia. Lead fractures, lead dislodgments, oversensing of the T wave and inappropriate programming also contribute associated risks.

What will a magnet do?

Nearly all AICDs have a function where the placement of a magnet with sufficient energy will inhibit the delivery of high voltage tachy-arrhythmic therapy without interfering with pacing function.[2] The magnetic field activates either a reed or hall switch within the device provided the magnet remains in immediate proximity. When the magnet is removed, the device will, in most instances, return to normal function.

There are several scenarios where this function is employed, the most prevalent for this discussion is inappropriate therapy.

Lead dislodgement

Lead dislodgment in implanted ICD leads occurs in 0.5% to 2.5% of cases.[3] The fixation mechanism in endocardial high voltage leads is a small helix that extends from the end of the lead and securing the tip to the heart wall. Successful deployment of this lead is ascertained during implant via electrical measurements, fluoroscopic assessment of location and identification of radiopaque markers on the lead tip that confirm helix extension. In a small subset of patients, the lead can come away from the site of fixation, usually occurring shortly after implant (Figure 1). When this occurs, sensing is impaired due to poor electrical connection and heart motion. The result is electrical noise on the device circuit that is interpreted (unavoidably) as a high cardiac rate, which invariably falls into the therapeutic range. The result is often inappropriate and repeated high voltage therapy that can only be ceased with reprogramming or the use of a magnet.

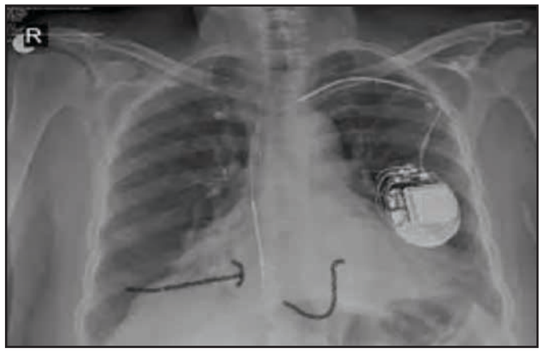


Figure 1. Displaced high voltage lead (arrowed). Curved line indicates normal lead position
(Image from: Medical Journal of Mugla Sitki Kocman University 2018;5:5-9)

Lead fracture

All implantable leads are subject to failure.[4] They exist in a hostile environment, follow a tortuous pathway to the heart and flex with every contraction. Every effort is made to improve lead longevity, however there will always be lead failures over time in a small patient population. When a lead fracture occurs, the device will see electrical noise generated by the fractured elements (Figure 2). This again is identified as a high rate that falls within therapeutic range and if it persists for long enough, therapy is delivered.

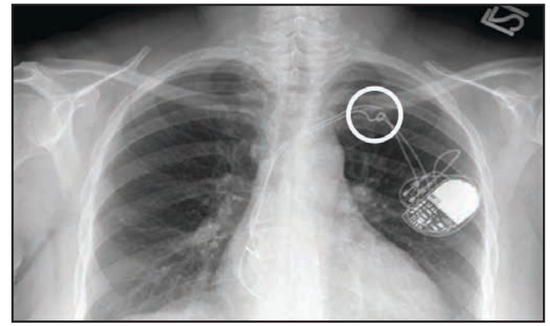


Figure 2. A broken pacemaker lead in a 69-year-old woman (circled)
(Image from: Cleveland Clinic Journal of Medicine 2017;84:346-347)

T wave oversensing (TWOS)

A device will assess incoming electrical signals and employ a host of filters, discriminators and timing assessments to improve discrimination between P, QRS and T waves. The possibility exists for T waves to be inappropriately classified as QRS complexes. The risk of TWOS increases when the underlying rate exceeds half that of the therapy cut off (commonly 160–180 bpm for ventricular tachycardia [VT]). Two signals are identified (sensed ventricular signal and T wave) and both classed as individual contractions. A discriminator is present in all devices that analyse for the typical sensing pattern of TWOS, however if the rate accelerates to the point that the variance in time duration between V-T and T-V becomes comparable, the device may classify the rhythm as VT and employ therapy if it has been programmed to do so. Figure 3 shows surface ECG and the markers identifying rhythm on the bottom row. FS indicates cardiac events falling in the VF zone of detection despite this being sinus rhythm. Note that QRS and T waves are both seen. The FD marker states that the criteria for VF has been satisfied and impending defibrillation will occur if the rhythm fails to cease.

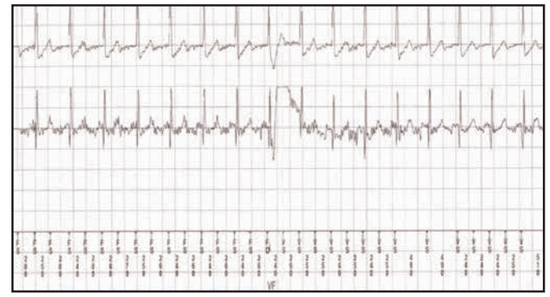


Figure 3. Surface ECG and the markers identifying rhythm
(Image courtesy Medtronic)

Relevance to the out-of-hospital assessment

Magnets and pacemakers

The application of a magnet to a pacemaker varies to that of an AICD. In the presence of a magnet, a pacemaker enters an asynchronous mode at a rate relative to the type of pacemaker (rates range from 85–100 bpm). This is a mode where the device paces at a pre-prescribed rate irrespective of the sensed cardiac activity. The primary use of this function is to allow a patient entering surgery with known electromagnetic interference risk in proximity to device (commonly diathermy) to have the procedure without inhibiting pacing.[5,6] Remember that noise is perceived as cardiac in origin, hence if the device sees this noise, it may as a consequence inhibit pacing until the noise ceases.

There are uses and value to understanding this in the out-of-hospital field. A patient may be having an inter-hospital transfer with a magnet taped to the chest as a means of increasing the heart rate in the setting of haemodynamic compromise. At rest, the usual pacing rate sits at 60 bpm. Applying a magnet will increase the rate in excess of 85 bpm, potentially improving cardiac output. A risk also presents in some patients where vibration during transport (e.g. rotary wing or dirt road travel) can induce rate response, a feature where certain devices employ an accelerometer to perceive patient motion during exercise and increase heart rate according to degree of exertion. A magnet will limit rate changes in this setting if the patient is pacemaker dependent.

In the setting of inappropriate shocks, the pacing physician community is divided between support and stern opposition regarding the placement of magnets on emergency ambulances. There is certainly value from the author's perspective in placing pacing magnets on vehicles for specific guideline-driven use. If a patient is having ongoing cardiac monitoring, has an implanted defibrillator and is witnessed to have a high voltage therapy in witnessed sinus rhythm, the argument for use of a magnet in this setting needs consideration. This is a rare occurrence, however repeated inappropriate shocks from an implanted device carries the aforementioned problems and in geographies where transport times are significant, the patient may well be exposed to a significant number of shocks, even to the point of battery exhaustion. The concerns surrounding magnet availability on ambulances are many, but with an established learning package, field-based trial and limitations on circumstances where magnets can be employed, they could be a worthwhile inclusion in the paramedic's arsenal of interventions.

About the author

Tim Bonser DipAmbParaStud, GradDipEmergHlth (MICA), Cert IV TAE is an IBHRE-certified cardiac device specialist and senior clinical specialist in the Cardiac Rhythm Heart Failure Division of Medtronic. Tim also runs a blog for paramedics at **prehospitalpacing.com**

References

1. Mond HG, Crozier I. The Australian and New Zealand cardiac pacemaker and implantable cardioverter-defibrillator survey: calendar year 2013. Heart Lung Circ 2015;24:291-297.
2. Clements PAD. Hazards of performing chest compressions in collapsed patients with internal cardioverter defibrillators. Emerg Med J 2003;20:379-380.
3. Zaman JAB, Chua K, Sovari AA, et al. Early diagnosis of defibrillation lead dislodgement. JACC: Clinical Electrophysiology 2018;4:1975-1988.
4. Hammadah M. A broken pacemaker lead in a 69-year-old woman. Cleveland Clinic Journal of Medicine 2017;84:346-347.
5. Jacob S, Panaich SS, Maheshwari, et al. Clinical applications of magnets on cardiac rhythm management devices. EP Europace 2011;13:1222-1230.
6. Stone ME, Salter B, Fischer A. Perioperative management of patients with cardiac implantable electronic devices. Br J Anaesth 2011;107(Suppl 1):i16-26.

CAA 2019 Awards for Excellence

The Australasian Ambulance Awards for Excellence have been run by the Council of Ambulance Authorities for over 10 years. The awards are designed to encourage innovation and to enable services to share their work and learn from each other. The awards are independently judged by a panel of industry respected judges from around the world. Congratulations to the following 2019 Awards winners.

Excellence in Patient Care

Ambulance Victoria: GoodSAM and AED Registration Programs

Ambulance Victoria partnered with UK Company GoodSAM to introduce its Smartphone app to alert community responders to suspected cardiac arrests as part of AV's commitment to increase survival rates. Since the start of the program more than 4000 people have registered and the evaluated survival rate, where GoodSAM responders attended, was more than four times higher than instances where no responder was present.

Finalists

South Australian Ambulance Service: Client Support Unit

Ambulance Victoria: Pilot of the pre-hospital Response Of Mental health and Paramedic Team (PROMPT): Providing Best Care

Excellence in Staff Development

Queensland Ambulance Service: Critical Care Paramedic Leadership Development Program

QAS implemented the Critical Care Paramedic Leadership Program for its team of 400 critical care paramedics. The program has worked to encourage CCPs to understand their roles as clinicians and leaders – influential positions involving mentoring and the capacity to drive positive cultural change.

Finalists

Ambulance Victoria: Peer Support Dog

NSW Ambulance: Wellbeing Workshop

Excellence in Leadership

South Australian Ambulance Service: SAAS Reconciliation Action Plan

SAAS introduced its Reconciliation Acton Plan as a means to engage with Aboriginal and Torres Strait Islander peoples, increase their rate of employment in its workforce and deliver equality of health care to make a positive contribution to Closing the Gap. The respect and trust developed through the program has been invaluable. It has enabled paramedics to provide early interventions in health care helping clients to avoid hospital treatments and empowering them to look after their own health care.

Finalists

Ambulance Victoria: Growing Leaders Program

NSW Ambulance: Protected at Work: Best Practice Occupational Violence Prevention program

Excellence in Clinical Performance

Ambulance Victoria: High-performance CPR: The development and implementation of a state-wide, multi-agency model in Victoria

As part of its commitment to adopting the Global Resuscitation Alliance's 10-step program to improve out-of-hospital cardiac arrests, Ambulance Victoria identified two steps as most significant for patient survival in Victoria: high performance CPR with ongoing training and quality improvement, and measuring professional resuscitation using defibrillators.

Finalist

St John Western Australia: Revolutionising Cardiac Arrest Outcomes in Western Australia

Excellence in Technology

Ambulance Victoria: Analytics Uplift Project

To better support operational managers in driving performance improvements, Ambulance Victoria developed a project to generate better strategic decision-making. The project focussed on three main areas: improving technology, up-skilling managers and analysts and delivering complex predictive and prescriptive analytics. The project has resulted in positive outcomes including higher levels of job satisfaction, increased in-house analytics capability and the capacity to tackle rapidly changing businesses challenges.

Finalists

Queensland Ambulance Service: Electronic Ambulance Report Form Project

Ambulance Tasmania: ESCAD Project

Star Award

The Star Award, selected from the winners of each of the five categories, was presented to Ambulance Victoria for its Analytics Uplift Project.

An overview of the 24 nominations for the 2019 awards is available at **www.caa.net.au/publications**

SPAIC 2019 REWIEW

SPAIC 2019 was held in Brisbane over 4 to 5 October. With brilliant pre-conference workshops, amazing speakers and the ever-incredible FernoSim Challenge, SPAIC 2019 was the student event of the year.

POSTER COMPETITION RESULTS

#SPAIC2019

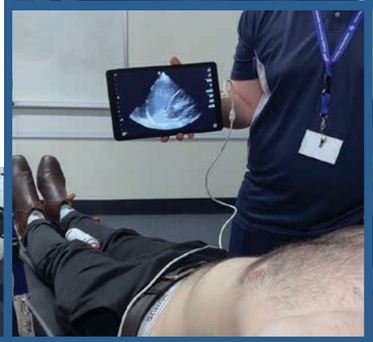
Thank you to Darren Hodge and Pafford EMS for their generous prize donations.

Congratulations to the SPA Committee, and the following winners of the Poster Competition:

FIRST: Pre-hospital management of trauma during pregnancy by K McKee and J Castledine.

SECOND: The airway effect: a literature review by C Hollis.

THIRD: What are we doing to look after our mental health and wellbeing? by S Yate.



CART
RFDS, Alice Springs Operations Base

by Simon Hales, paramedic, St John Ambulance, Darwin, NT

CART (Central Australia Retrieval Training) is a three-day course facilitated by the Royal Flying Doctor Service, mainly to initiate new retrieval registrars into the world of retrieval medicine and RFDS operations in Central Australia.

I literally knocked off from my second night shift, had an hour's nap and was on a plane from Darwin to Alice Springs... this was going to be an interesting four days off.

Day one covered RFDS operations, their aircraft, who comprises their retrieval teams and what support these teams have on the ground from MRaCC (Medical Retrieval and Consultation Centre), which is located in the Alice Springs Hospital and co-ordinates all medical retrievals with an ability to arrange multi-agency response. We then undertook a basic familiarisation on what to expect if you were heading out on one of their missions. I found the aircraft to be similar in layout to the current fleet of ambulances I work from, with an emphasis on safety, correct stowage of equipment and as much prior treatment and packaging of the patient as time will allow (although I think there's actually more head room in the plane).

The staff from RFDS were friendly, their combined knowledge base tremendous, and they were only too happy to share this with the class, some of whom were locum GPs; anesthetists; remote area, ED, flight and ICU nurses, along with myself and three other St John Ambulance paramedics.

Day two and three, well... the topics we covered were as vast as the area the RFDS covers, from the aggressive management of acute sepsis in all its various forms, the time critical trauma patient (along with moving on cattle from a rolled road train!) to management of the acutely psychotic patient, paediatric critical care, maternal delivery and neo-natal resuscitation.

Various hands-on skill stations were available, my first attempt putting in a chest thoracotomy on a (I think) sheep carcass was interesting, and the race against the clock to get a (safe) patient surgical airway certainly brought out the competitor in most of us! The props and training aids were excellent, as was the interaction between RFDS and paramedics.

The time critical scenarios we were thrown into during simulation time were realistic and well laid out. We all know how fluid the pre-hospital environment can be and staff from RFDS excelled at bringing us out of our comfort zone, and for some of the students it was a real eye opener to the work that is often required in the pre-hospital retrieval world.

I'd like to thank Paramedics Australasia for the opportunity to undertake the CART course, and acknowledge the efforts of Brock Hellyer (Chair, Northern Territory Chapter) in making this happen. If you are interested in retrieval medicine, I strongly encourage you to apply for the course, you won't regret it.

The Northern Territory Chapter has secured two places for eligible PA members to attend CART over 5–7 February 2020. If you are interested in applying, please email brock.hellyer84@gmail.com

Producing well-rounded clinicians

by Amie Borland and Rachael Rose, paramedicine students, QUT

In consultation with the Cherbourg Health Action Group, Queensland Ambulance Service and QUT School of Clinical Sciences, a program has been developed for final year paramedicine students to undertake a six-week clinical placement at Murgon Ambulance Station in the South Burnett district of Queensland.

There is a diverse range of benefits for students undertaking this placement, including the opportunity to engage in community project work. Over the past two years, the program has been evolving to provide relevant and appropriate first aid awareness sessions, presenting a range of first aid principles and practices to community groups. In 2018, students held sessions with the Cherbourg Men's Shed and the Cherbourg State School. In 2019, students held sessions for the boy and girl groups at the Murgon Community Training Centre, and for the Girls Academy at Murgon State High School.

(L-R) Amie and Rachael at Murgon Ambulance Station

Participants in the sessions were taught the basics of how, when and why to call an ambulance – including demystifying the questions they may be asked when talking to the QAS Communications Centre – to help reduce any stress or anxiety when making a call to triple zero. These sessions also incorporated the first aid basics of 'DRSABCD' and CPR followed by 'session snippets' that covered information requested by each individual community group facilitator; including sports injuries, concussion, wound management, burns management, how to treat a snake bite and how to look after an intoxicated friend.

How the program works

Cherbourg's Health Action Group comprises community members and representatives from health, welfare and education agencies. It oversees the collaboration between QUT and the local community to ensure community

Cherbourg Ration Shed Museum

Murgon Ambulance Station

expectations are met. The Social Work and Human Services program at QUT has been partnering with the Aboriginal community of Cherbourg on a diverse range of community-initiated projects since 2013. Each student placement opportunity reflects the principles of respect, social justice and decolonisation, and begins with a visit to the Cherbourg Ration Shed Museum as part of their cultural awareness training before integrating with the local health services.

> "Culturally sensitive, holistic, patient-centred care is the only way forward for paramedic practice"

The learning experience from such a placement opportunity is invaluable to students transitioning from a learning environment to one of practice. It helps to ensure that new clinicians avoid replicating colonialist relationships of the past that have not taken into account Indigenous communities' needs. This helps to develop meaningful community relationships over time and shifts the perspective on learning from one of 'taking away' a valuable learning experience and turning it into one that is a mutually beneficial, long-term relationship.

Culturally sensitive, holistic, patient-centred care is the only way forward for paramedic practice. It is taught and emphasised throughout the paramedic degree, but until students are placed within an isolated, highly cultural environment to practise, these skills cannot effectively be developed or understood. Projects such as the Murgon and Cherbourg Community/QAS placement programs are invaluable learning experiences for students and will help produce more well-rounded clinicians, which makes for an invaluable experience that hopefully grows into stable fixture in these communities moving forward.

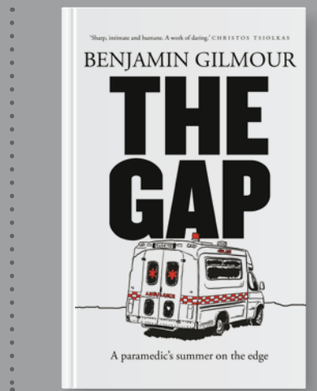
Murgon Community Training Centre

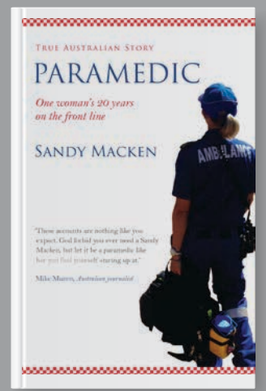
History of Cherbourg

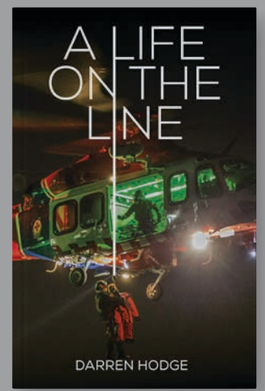
Located seven kilometres south of Murgon, Cherbourg was established as Barambah in 1899 by William Thompson of the Salvation Army. It was subsequently taken over as a government settlement in 1904. People from tribes across Queensland and New South Wales were forcibly moved here under the Aboriginal Protection Act between 1904 and 1940. Almost every aspect of life in the settlement was government controlled with individuals housed in dormitories away from their families, and severe punishments enforced for breaking the strict and often arbitrary laws. In the 1960s, the people of Cherbourg started to claim more freedom: government issued rations ended in 1968; the community became a Deed of Grant in Trust Community in 1988; and Cherbourg's first independent council was elected in 1991. For more information, visit the Ration Shed Museum at **http://rationshed.com.au/about-cherbourg/**

Paramedics in print

There are many books available written by paramedics, past and present, that cover a range of issues and experiences. Check out these recent releases.







The Gap: an Australian paramedic's summer on the edge *by Benjamin Gilmour*

Published by Random House Australia, 2019

ISBN 9781760890209

What they're saying...

The Gap is a vivid portrait of the lead-up to Christmas; an unflinching no-holds-barred look at what happens after the triple-zero call is made – the drugs, nightclubs, brothels, drunk rich kids, billionaires, domestic disputes, the elderly, emergency births, even a kidnapping. Patients share their innermost feelings and we witness their loneliness, their despair and their hopes. Beautifully written and sharply observed, *The Gap* exposes the fragility of our lives and the lengths paramedics will go to try to save us.

Paramedic: One woman's 20 years on the front line *by Sandy Macken*

Published by Rockpool Publishing, 2018

ISBN 9781925682793

What they're saying...

Experience the exhilaration and danger of emergency trauma, where a few seconds can mean the difference between life and death, but also the raw beauty, vulnerability and remarkable resilience of the human spirit. Sandy's unique perspective as paramedic with the NSW Ambulance Service will open your mind, awaken your heart and shine a light in some very dark places.

A Life on the Line: a MICA flight paramedic's story *by Darren Hodge*

Published by Wilkinson Publishing, 2019

ISBN 9781925642988

What they're saying...

A Life on the Line tells what it's like to be Darren Hodge on the end of a line, what it's like to be a paramedic. Open, honest reports, warts and all, this memoir is an unflinching account of how it feels to pluck people from imminent death. And there are some laughs on the way.

We have two copies each of these titles to give away to readers. Simply email **EditorResponse@paramedics.org** nominating your book preference. The first two emails received for each book title will be successful in securing a copy. Get in quick!

Earlier this year, almost 100 Victorian paramedics and student paramedics met in Melbourne to hear a powerful presentation on post-traumatic growth by Canadian paramedic-artist Daniel Sundahl ('DanSun').

Daniel's latest book, *Portraits of an Emergency – Chapter 3*, is now available for pre-order exclusively through *The Code 9 Foundation*, an organisation that raises funds to sponsor assistance dogs for members of the emergency services who are suffering post-traumatic stress disorder, depression and anxiety.

You can see more of DanSun's work and connect with him via his website at **www.dansunphotos.com**

AUSTRALASIAN JOURNAL OF PARAMEDICINE

PARAMEDICS AUSTRALASIA

RESEARCH

Selected abstracts

The following abstracts are from the Australasian Journal of Paramedicine, Volume 16, 2019. The AJP now employs continuous publishing so check the AJP website regularly for new peer-reviewed paramedicine research and review papers: **https://ajp.paramedics.org**

What constitutes an emergency ambulance call?

Brennen Mills, Michella Hill, Jessica Buck, Ella Walter, Kayla Howard, Alex Raisinger, Erin Smith

Introduction

Ambulance services are often utilised for low-acuity conditions. This study seeks to understand under what medical circumstances the Australian public perceive it to be appropriate to call triple zero requesting ambulance assistance.

Methods

A total of 544 participants completed a 15-minute online survey distributed via social media, flyers and email links. Participants viewed 17 medical case study scenarios, developed in consultation with a panel of paramedic experts, and were asked to select which of nine possible medical interventions was most appropriate. A panel of paramedic experts reached consensus for each case study on whether it was or was not appropriate to call for triple zero assistance.

Results

Inappropriate medical intervention responses were more prevalent in scenarios deemed appropriate for ambulance assistance, compared with scenarios where an ambulance call-out was inappropriate (48% vs. 3% respectively, $p<0.001$). Many scenarios where ambulance use was appropriate found respondents utilising other healthcare services typically associated with lower-acuity conditions. Individuals without first aid training were more inclined to choose healthcare services incorrectly (65% vs. 69% respectively, $p<0.001$).

Conclusion

Responses to our case studies suggested a lack of understanding of situations that warrant an emergency. First aid training and education regarding medical emergencies and paramedic scope-of-practice would be beneficial. This study did not demonstrate substantial inappropriate ambulance usage however, respondents did not recognise the severity of certain emergencies and were inclined to utilise other health care services. Further research investigating the rationale behind triple zero use, improving public education and clarifying the role of paramedics is required.

You can add valuable hours to your CPD portfolio with AJP articles. Log in to eLearning at https://elearning.paramedics.org/moodle/ and complete the multiple-choice questions.

Paramedic judgement, decision-making and cognitive processing: a review of the literature

Meriem Perona, Muhammad Aziz Rahman, Peter O'Meara

Background

Paramedics routinely perform multiple time-sensitive decisions in dynamic environments, often with limited information and equipment. Paramount to patient safety, how paramedics make judgements and decisions within their uncertain environment is important. The primary aim of this review was to identify, examine and synthesise the published literature on how paramedics working in the out-of-hospital environment use judgement and make decisions.

Methods

Databases Medline, PubMed, CINAHL, Embase were searched and common themes pertaining to paramedic decision-making were identified. Full text original research articles that focussed on how paramedics perform decision-making in the out-of-hospital environment were included. Papers excluded were non-English; those examining emergency medical technicians, nurse- or physician-led ambulances; paramedics operating in hospital or clinic-based environment; and studies of purely paramedic student populations. Data were managed using the 'preview, question, read, summarise' approach.

Results

A total of 362 abstracts and titles were reviewed; six were found to address the research aim. Of those six, four were qualitative in approach, one quantitative and one was mixed methods. Overall, paramedics displayed the application of subconscious (intuitive) and conscious (analytical) thought processes – consistent with dual-process theory – with experience and formal education influencing factors. Paramedics gathered cues, problem solved, critically analysed, reasoned and displayed aptitude at rapid clinical impressions in critically ill patients with minimal information. Expert paramedics collected, processed and utilised information differently to novices portraying an interconnectedness of conscious and sub-conscious processing.

Conclusion

Paramedic judgement and decision-making is complex and multifaceted with multiple layers of knowledge interwoven. Implications for practice include better cognitive performance; educational course structure guidance; encouraging implementation of routine reflection and feedback, thus promoting continued improvement and better patient outcomes. Despite its importance, research was lacking.

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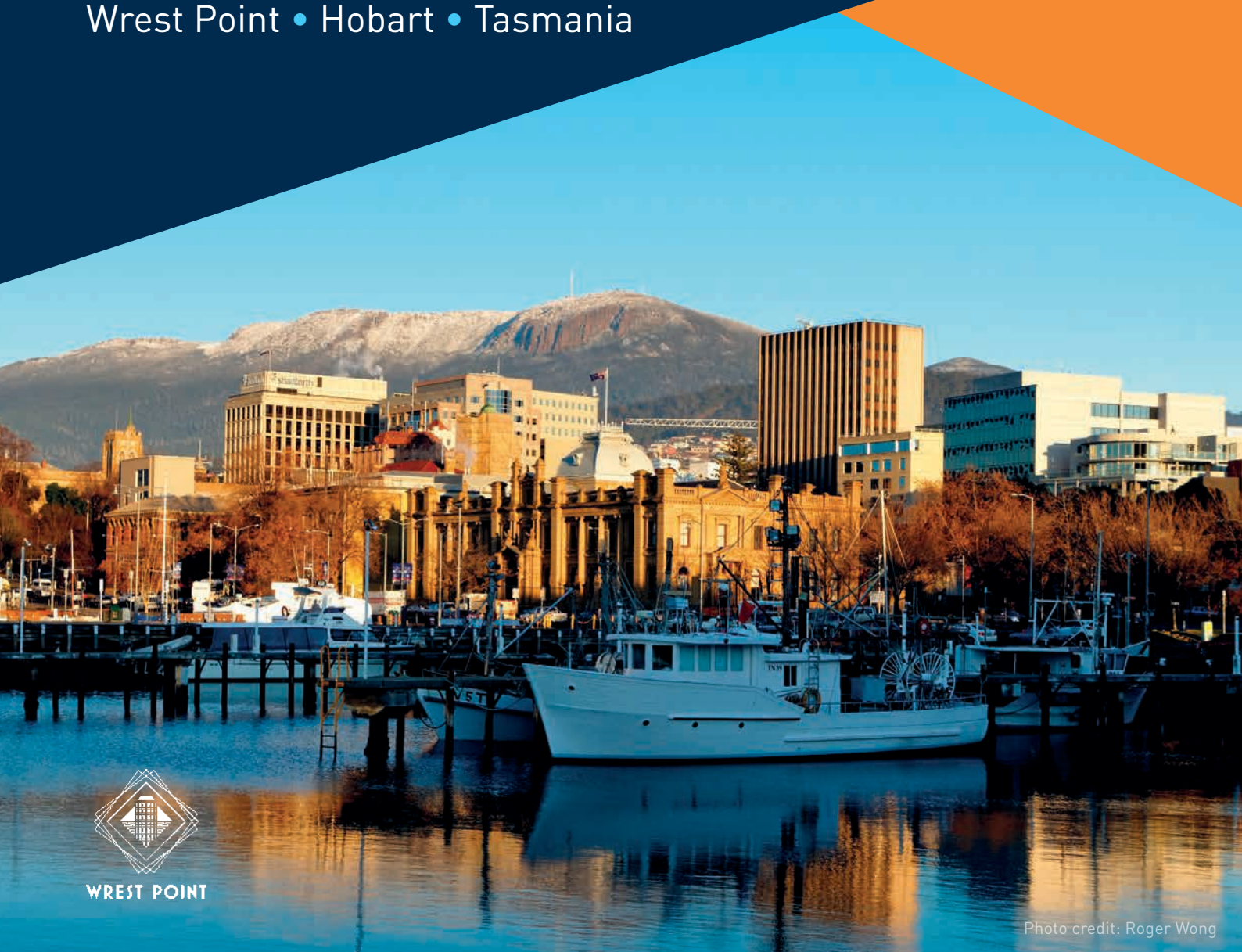

WREST POINT

Photo credit: Roger Wong