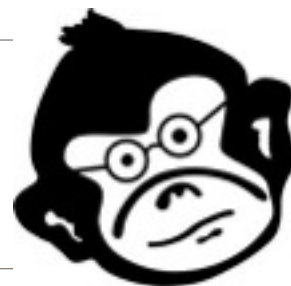

APE 2014



The energy of the mind is the essence of life
Aristotle



APE 2014 comprised three weeks of presentations and discussion. The summaries below are taken from contemporaneous notes and refer to presentation slides where appropriate. The intention is to provide an indication of the content of the discussion and an *aide-memoire* for those who attended.

**Dolomites Delegates -
a study in focus, profile
and depth**

The convenors were thrilled to be thanked and complemented on the quality, diversity and benefits of the programme. It is our belief, supported by feedback from our delegates, that APE meetings can be life-changing events. They appeal to any person who is curious, interested in personal growth and wanting to enjoy an atmosphere of generously shared ideas and professional fellowship.

The theme of energy was embraced by delegates to the 2014 meetings. In some cases the energy theme was front and centre of the presentation. In others it was subtly alluded to or introduced as a transformative element.

Week 1 Keynote Presentation - Eric Dickie - President, Delta Geothermal

Eric set the tone for the Silver Star meetings with an extremely well-informed and informative presentation on the state of the world energy industry. A major opportunity for transforming this industry lies in the way that we heat and cool our buildings (40% of energy consumption).

Eric's particular interest is geothermal energy for heating, ventilating and cooling (HVAC) buildings. He describes how it achieves its efficiency and how domestic geothermal HVAC installations can provide great performance cost effectively. Geothermal systems typically have coefficients of performance (COPs) of 3.0 to 5.0 (i.e. for every unit of energy used to power the system's pumps and condensers they return 3 to 5 units of heating or cooling).

The session on energy consumption and production rounded out with a scenario planning exercise addressing futures for energy supply, housing, climate, air travel, land transportation and food.

The discussion was able to transcend the current political heat...

**Energy is the key to creativity.
Energy is the key to life.**

WILLIAM SHATNER - CAPTAIN KIRK

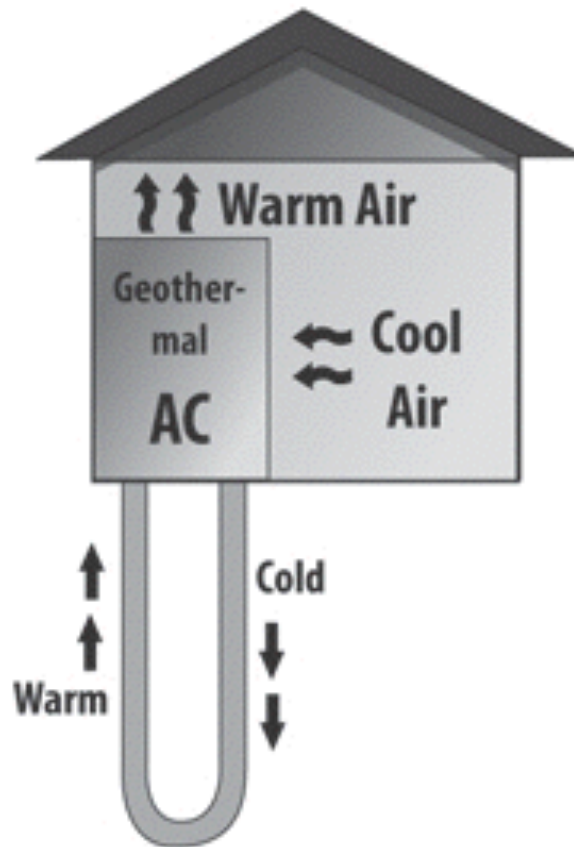
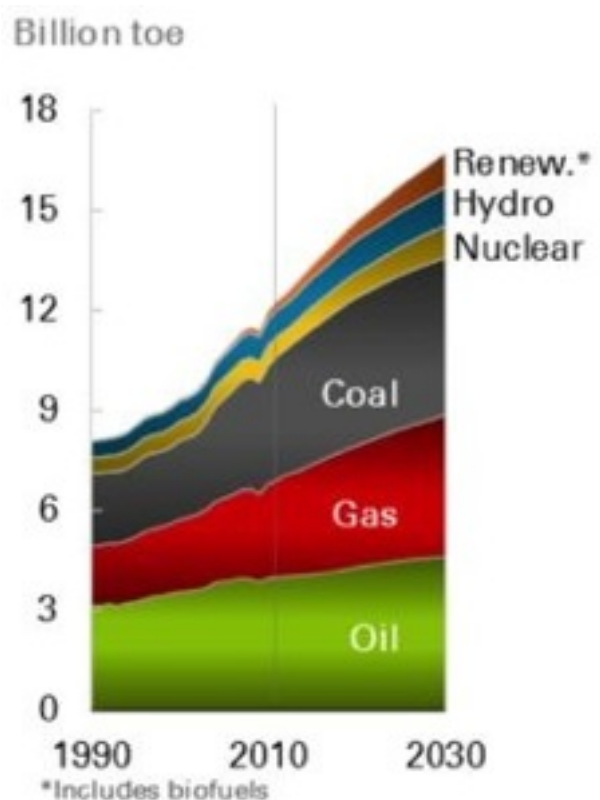
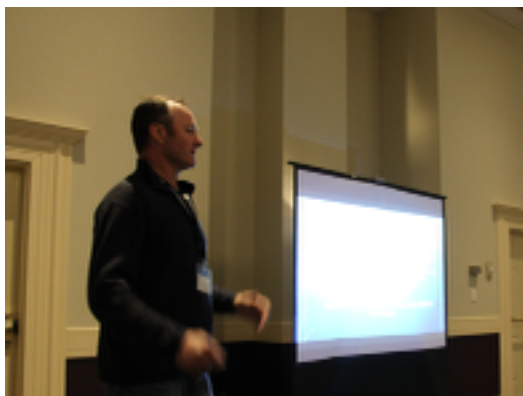


Diagram of how geothermal HVAC systems work.



Energy Outlook 2030
© BP 2013

Size *does* matter - Dr William Quinn



Bill Quinn is based in Bowral NSW.

His interests and practice are in general cardiology, cardiac catheterisation, echocardiography (including TOE), stress testing and general medicine. He is actively involved in student teaching (UNSW and UoW).

A presentation that combines the theme of energy with the violence of rugby and the physiology of the heart is always going to be provocative, especially in a peptide charged world. Bill tells an amazing story based on the just released discoveries of Dr Sharon Kay. Her research on the aortas of elite players from both codes of rugby is going to change the face of those games. It seems we don't yet know exactly what is going on, but the speculation is wild!

Hyperbaric Oxygen Therapy Uses in cold climes - Dr Susannah Sherlock

Susannah is an anaesthetist and hyperbaric physician. She works at the Royal Brisbane and Women's and The Prince Charles Hospitals in Brisbane. She is also an instructor for the Herston Skills Centre (anaesthetic crisis simulation) and an examiner with the Australian and New Zealand College of Anaesthetists.



While Brisbane might not be often associated with treatment of injuries due to cold, it has the benefit of a physician experienced in the use of HBOT in treatment of frostbite. This presentation details the theory and practice of HBOT for cold injuries. It reviews degrees of frostbite damage and treatment protocols before giving a detailed account of how HBOT works, side effects and contraindications.

Due to popular demand, Susannah also presents on CPR in space with the latest in physiological tidbits from extreme conditions including the inside info on the Baumgartner jump.

Death: What are we afraid of? - Dr Kirsten Bailey

Dr Bailey is a Fellow of the Australian Faculty of Rehabilitation Medicine. She practices as a Consultant in Rehabilitation Medicine at several Public and Private facilities in Newcastle. Dr Bailey has a Special Interest in Musculo-Skeletal Medicine.



This presentation traces the evolution of attitudes and practices in relation to end of life care. Historical, medical, ethical and legal frameworks have influenced the area over many years. The first “do not resuscitate” orders emerged in the 1970s. At roughly the same time health economists were highlighting the significant proportion of the health budget going on end stage care and the opportunity cost that this represents. This presentation challenges the current default positions and calls for education and honest conversations with patients and family. The “Edinburgh Study” confirms preservation of dignity, quality of life and honest acceptance of disease trajectories are desired by older people. A number of case studies are presented as to how the current default positions achieve counter-productive results compared with a systematic approach to initiating end of life discussions in acute and residential care.

Sutureless Valves in Cardiac Surgery - Dr Simon Moten

Simon is a cardiac surgeon who consults at the Austin and Royal Melbourne Hospital. Simon’s presentation follows on naturally from Kirsten’s, especially in the light of his near death captured on youtube (<http://www.youtube.com/watch?v=mP-61DCjh4Y>)



This presentation describes Simon’s recent experience with the Percival S suture-less valve. A number of advantages over alternative treatments were noted, in particular: low leakage, low rates of thromboembolic complications, relative simplicity and reduced time of insertion.

Glenoid bone deficiency and Shoulder replacement - Dr Katherine Gordiev

Katherine is an orthopaedic surgeon (University of Sydney MBBS Hons 1 1993). She is based in Canberra specialising in the shoulder and upper limb and has a number of clinical and professional appointments.

This presentation discusses the basics of shoulder anatomy and the indications for shoulder replacement surgery including patterns of bone loss associated with dysplasia versus arthritic conditions. Two case studies are presented including an 84 year old man with “good protoplasm” - especially interesting in the light of the Bailey discussion on treatment of the elderly. The presentation concludes with a discussion of the prospects for novel glenoid implants.



The First Step Legal Service - Tania Wolff

Tania is a Melbourne lawyer and Principal of the First Step Legal Service in St Kilda. It is an integral part of the First Step Program - see www.firststepprogram.org/ for more information and to make a tax deductible donation. Tania is using her background in private practice to make a real difference to people's lives.



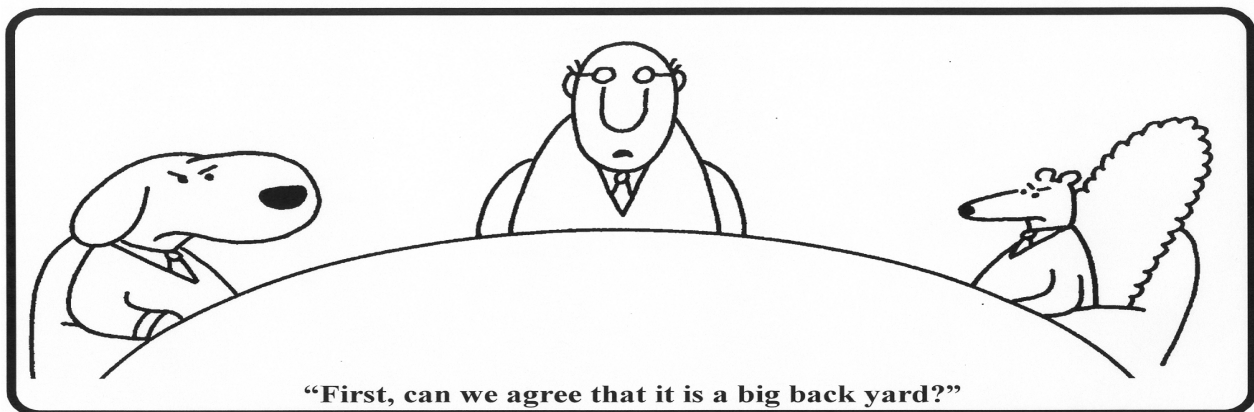
Tania's presentation outlines the work of the First Step Program (FSP), the First Step Legal Service (FSLS) and the Second Step Program (SSP). The FSP is a pioneering program founded in 2000. It offers multi-disciplinary, integrated services for drug and alcohol treatment and rehabilitation. The concept of a program to address the cycle of youth addiction, criminality, prosecution, incarceration, reoffending is a very worthy one. It requires involvement of doctors, psychologists, and mental health nurses to nurture patients. Just as importantly, it requires lawyers to work with clients to prevent rehabilitation being derailed by a counterproductive sentencing outcome. Satisfactory completion of the FSP qualifies patients for participation in the SSP which engages with potential employers to offer rehabilitating offenders employment and reintegration. The results of these programs are extremely encouraging and inspiring.

Mediation: ten ways not to settle at mediation - Samantha Marks SC

Samantha has worked as a barrister since 1989 in Victoria. In 2010 she took silk (was appointed Senior Counsel for the State of Victoria). She practices principally in commercial law, employment, probate and TFM matters as a legal advisor, advocate and mediator.

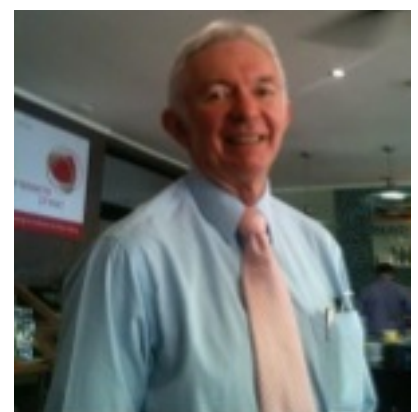


This tongue-in-cheek list identifies the many mistakes that are made when people go about mediation poorly. Mediation is clearly a valuable tool for many disputes from barking dogs right up to multimillion dollar commercial issues. By avoiding these ten mistakes, the effectiveness of a mediation can be maximised.



The role of the insurance broker - Ian Ruff

Ian Ruff (Ruffy) is Director of Capital Insurance Brokers in Deakin, ACT Australia. Capital Insurance Brokers is a "One-stop shop" for Life and General Insurance. He won a Bronze medal at the 1976 Olympics - one of only three medals won by Australians in Montreal.



Ian draws on his many years in the insurance industry to suggest ways that brokers can add value. The aim is to avoid clients wasting money on premiums for insurance that do not meet the eventualities the insurance was designed to cover. Particular examples are from the income protection area where poor selection of policies and failure to pay attention to particular wording can result in very poor outcomes in the event of a need to claim. Delegates are able to share their own experiences and concerns regarding insurance.

Bell Medical - Case study in entrepreneurship

Alan Bell has many years of experience in the Human Capital sector. He was founder and CEO of Chandler MacLeod Health and grew that business into one of the major HR service providers for Australian health services. He now runs Bell Medical and is a director of the Recruitment and Consulting Services Association.

Alan's presentation provides a snapshot for a business in development. It describes steps in taking a new venture to market including identifying the right people to have on a Board, developing a compelling case on market attractiveness and basic financial modelling. It uses spreadsheets to introduce concepts such as return on investment benchmarks and payback periods.



The one-page financial plan and Superannuation review - Brett Dillon

Brett Dillon is Principal of BD Financial Planning, an independently owned boutique practice. His is a very diverse client base ranging from medical specialists to tradies and some expat clients. Brett enjoys helping clients to solve their financial complexities and to grow and protect their wealth.

Brett's presentation on the one-page financial plan reminds us that a 40-year-old professional only has 240 monthly pays to establish an investment platform if they want to retire at 60. This sobering insight is coupled with other reality checks such as the need to differentiate between lifestyle and investment assets. This personal finance presentation is a must-hear for every professional, whatever their age or financial position.



Due to the significant interest in some of the more technical aspects of superannuation, Brett provided a supplementary presentation on super. This set out the big picture of demographic change and the existing pool of savings. Clearly there is a mismatch for much of the community as to what they have put away for retirement and what they will need. Further, there is going to be a very big squeeze as we move from 5 workers per retiree currently to a projected 2.5 in 30 years time. Brett then reviews the legal nature of Super, the different types of funds available and their suitability for different types of people. This leads into strategies for professionals and a discussion of traps, problems and personal principles of investment through super. The current issues with the FoFA legislation, vertical integration in the financial advice industry and other concerns are discussed.

Fly In Fly Out - Phil Grunsell and Debbie Evans



Phil and Debbie are intensive care nurses. They also have direct experience of the energy industry through Phil's work at a FIFO coal operation at Moranbah Queensland (seen from the air above left). Phil is shown multi-skilling as fire warden (right) and Debbie is shown acclimatising the kids to Canada (bottom left).

This presentation opened week two of the conference. It was an eye-opening account of the life of a FIFO worker and included discussion of the impacts on the local community and the family left at home.

One of the major aspects of the FIFO life is a focus on site safety. Part of the safety culture is an aggressive approach to drug and alcohol testing of workers. The safety regulations and codes appear to be taken to extreme lengths, at least when seen from the outside.

Monotony, gender imbalance and rudimentary living conditions can create a harsh and overly masculine atmosphere where binge eating and drinking contribute to health problems. However there are opportunities during the extensive downtime for online and vocational learning and self advancement.

Of course the financial rewards are a major consideration in weighing up the FIFO lifestyle.

Snoring and Sleep Apnoea - Dr Darren Mansfield

Darren is deputy director of Respiratory Medicine at Monash Health. He completed a PhD in sleep disorders looking at the interaction of sleep disordered breathing and heart function in patients with congestive heart failure.



Darren does not hold back when describing the impacts of snoring and sleep apnoea on the health of sufferers, those around them and the relationships with family members. He also provides detail on the physiology leading to snoring and apnoea, contributing factors and possible solutions. The costs of alternate solutions are not inconsequential and some treatments are easier than others. This makes tailoring a course of treatment a quite difficult balance. For instance, mandibular advancement splints, which are quite effective for moderate to mild snoring and are relatively unobtrusive, can cost \$1500-2000. CPAP machines are effective even for severe sufferers - albeit intrusive, and can be rented for a modest initial outlay (circa \$100). Lifestyle changes, including weight loss and alcohol reduction, can benefit sufferers.

Duties of Directors - Simon Marks SC

Simon is a Commercial Litigator and Senior Counsel in Victoria. He came to the Bar in 1986, having practiced as a solicitor at King & Wood Mallesons (then Mallesons). He practices extensively in commercial litigation and trade practices in the Supreme and Federal courts.



In 2014 Simon entertains us with a summary of another major case (and one exciting some controversy in legal circles), the *Bell* litigation, which concerned the duties of directors to act in good faith, for a proper purpose and in the interest of the corporation (this duty is now imposed by s.181 of the CA). In *Bell*, directors entered into transactions with the groups' major lenders with the effect of converting lenders from unsecured to secured status. This failed to prevent the ultimate collapse of Bell and directors' decisions to commit the group to the transactions were challenged as being not in the interests of at least some of the companies in the group and against the interests of other creditors. Simon adroitly summarises the 9700 paragraphs of trial judgment and 600 of appeal judgment into some key questions concerning directors duties. The presentation provides some tips for directors to consider and effectively conveys Simon's enthusiasm for commercial law and corporate governance issues.

Lung cancer - Dr Michael Farmer

Michael Farmer is a Consultant Respiratory Physician at Monash Health and Director of Dandenong Respiratory Group. He is Unit Head of General Medicine at Casey Hospital, Berwick and an Adjunct Clinical Associate Professor of Medicine at Monash University. His particular interest is interventional bronchoscopy and he established the endobronchial ultrasound service at Monash Medical Centre in 2010.



Endoscopic diagnosis and staging of lung cancers has had a great deal of value added to it by other technologies. Professor Michael Farmer conducts regular bronchoscopic surveillance as well as participating in diagnosis of a variety of lung pathology: cancer, tuberculosis, lymphoma and sarcoid to name a few. Ultrasound, PET scanning, CT scanning, biopsy and cryotherapy have all enhanced the extent to which bronchoscopy can diagnose, stage, plan and deliver treatment and monitor patients. The integration of all of these techniques has reduced the place of surgical intervention dramatically as well as contributing to the improvement in the success of treatments involving chem or cryotherapy.

Colorectal cancer - Dr Andrew Stevenson

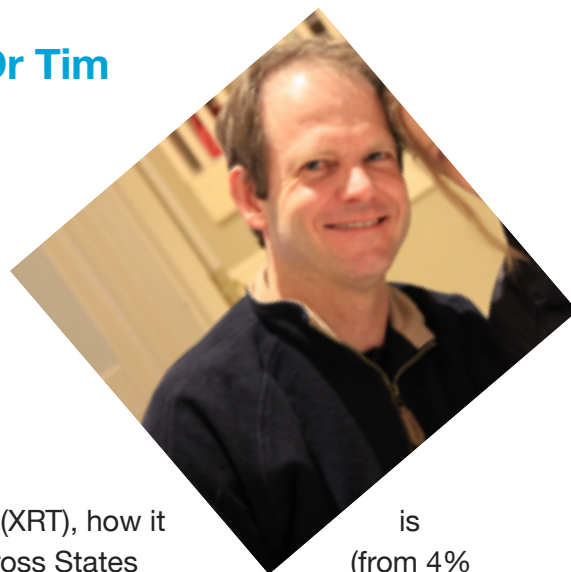
Dr Andrew Stevenson is a Specialist Colorectal Surgeon and head of Colorectal Surgery at Royal Brisbane and Women's Hospital. Andrew's main interests are in laparoscopic colorectal surgery, colorectal cancer, inflammatory bowel disease as well as functional disorders. He has been Principle Investigator in a number of large multi-centre trials in colorectal and laparoscopic surgery and continues to be involved in research, education and training. He runs regular workshops for surgeons in laparoscopic colorectal surgery around the world.



This presentation has all the delegates booking colonoscopies! It outlines the very high incidence of colorectal cancer (CRC) and associated mortality and morbidity. History of CRC surgery and latest developments, including multi-centre trials comparing open surgery with laparoscopic surgery are described. The developments in CRC surgery, many pioneered by Andrew's team, are truly astonishing.

Radiotherapy in Paediatric Oncology - Dr Tim Hassall

Tim is clinical lead of Neuro-Oncology and Retinoblastoma Services at Brisbane Royal Children's Hospital, covering solid malignancies of childhood. He is chair of the Childhood Cancer Task Group, Cancer Council Queensland and immediate past Treasurer of Australian and New Zealand Children's Haematology and Oncology Group.



This presentation gives a basic review of radiation treatment (XRT), how it is delivered to children and its side effects. While rates vary across States (from 4% in Tasmania to 35% in Victoria), a substantial number of children diagnosed with cancer receive XRT. It relies on tumours being more sensitive to radiation than normal tissue. Delivery is via linear accelerators (LINACS). It may be used as the main treatment, as an adjunct treatment or palliatively. Side effects are variable and related to dose, location, other treatments etc. They can range from short-term (lethargy, skin breakdown, nausea and vomiting, hair loss) to longer term or permanent effects (CNS effects, scarring, second cancer effect and genetic effects).

Energy, obesity, public health and complexity - Prof Helena Teede

Helena is professor of Women's Health, Director Monash Centre for Health Research and Implementation, School Public Health Preventative Medicine, Monash University. She is also head of the Diabetes Unit at Monash Health and NHMRC Practitioner fellow.



If you were to write a dust jacket blurb for this presentation it would be hard to avoid cliches such as "tour de force!". It outlines the key challenges, the need to focus on prevention and the ways to achieve change. Australia's position on the BMI league table is a call to action. The impacts of BMI are serious and span health, social and economic quality of life indicators - 2008 estimates of aggregate cost are \$58.2 billion (for BMI over 30kg/m²). Some under-appreciated effects include epigenetic impacts of weight gain during pregnancy. Prevention is 90% around caloric restriction and the bad news is that diets have limited compliance. Lap banding has become established as an effective intervention in serious cases but the overall picture is very complex. Small differences are often all that it takes to prevent onset of obesity. Behaviour change steps: engage, educate, incentivise, regulate, and support need to be embraced.

Resist your programming 101 - George Stammel

George trained initially as an accountant but then decided he could help people more as a psychologist. He trained at University of Newcastle and now specialises in the delivery of a range of evidence-based therapies to adults and older adolescents experiencing emotional difficulties.



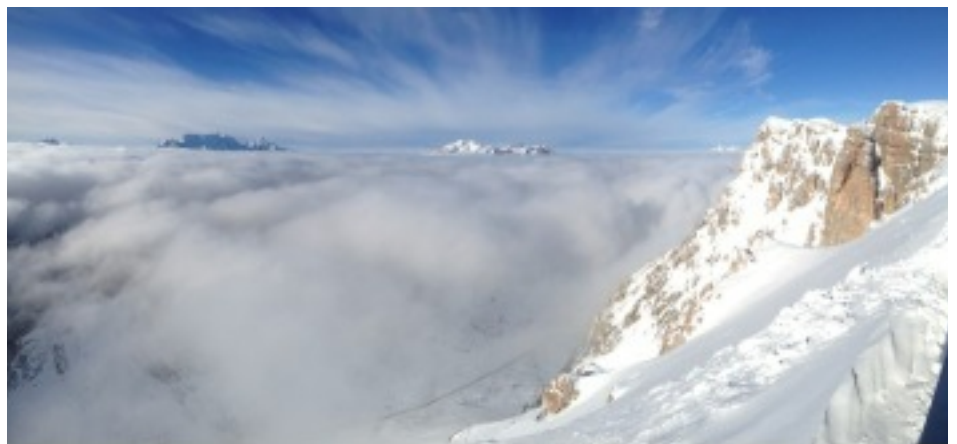
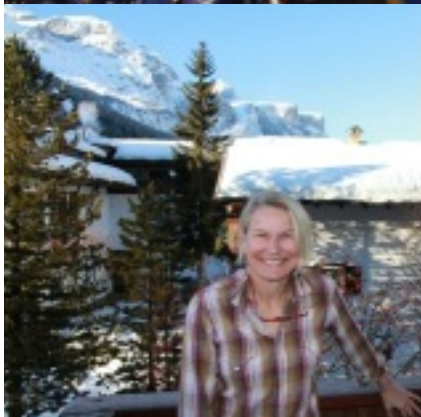
It was hard to believe you could describe a comprehensive model of human behaviour in 20 minutes until George did it on a whiteboard at APE 2014! Increasingly, medical models are influencing psychology. George describes the links between stress and trauma, fear, uncertainty, self-doubt and other negative emotions with changes at the CNS level. The importance of key hormones - serotonin, cortisol and adrenaline - are being integrated into psychological interventions. One example of this is awareness of the role of flight or fight responses inherent in the limbic system. The role of cognitive behavioural therapies and exercise in moderating limbic responses are discussed. George highlights the power of CNS effects by pointing out his own stress when giving a presentation - awareness of dry mouth, raised heart rate and other signs.



DOLOMITES S.I.G.

The APE meeting in the incredibly scenic Dolomites was something of an experiment.

Held 19-24 January at the Hotel Italia, Corvara, it was jointly convened with the Sports Medicine Australia (Queensland Branch) (SMAQ). The joint program resulted in very full days!



SMAQ presentations

A full description of the presentations from SMAQ delegates is available from SMAQ. They included the following topics:

- Volunteering in Africa: a gynaecologist's experience
- Gluteus medius tear: a personal experience
- Sportsman's hernia - fact or fiction
- RFT before surgery
- Peptides, ASADA and Australian sports
- Formula 1: risk management and safety design
- Medical issues in the state of Georgia
- Future directions for sports medicine

APE presentation summaries are set out below:

Blood spatter - Dr Charles Howse

Charles Howse has been practicing as a sports physician for many years in Canberra. This involves the medical care of local and national sporting teams. He has also worked on the on call roster for the AFP providing clinical forensic services.

This presentation allows the audience to understand the real CSI experience, not the sanitised, glamourised version we see on TV. With a run down on blood swipes, wipes, ponds and transfers, this presentation is guaranteed to 1. put you off your dinner and 2. develop a

new respect for the people working on the frontline of police forensic work.



Charles succumbed to popular demand and did a further presentation at the conference final session on wrist injury in sport. This presentation reviews wrist anatomy including principal tendons and nerves with a focus on a research project into scapholunate ligament injuries. Mechanisms for these were classified with falls (47%) and dorsiflexion (33%) constituting the major causes. Pommel horse is apparently a classic source of these injuries.



Drugs in sport - Prof Gabrielle Cooper

Professor Cooper has 20 years practice in hospital pharmacy, is an active member of the pharmacy profession and an accreditor for Australian and New Zealand pharmacy schools. Her research interests include the quality use of medicines in Australia, the improvement of communication of medication issues across the health discipline and the development of professional education in medicines.

Gabrielle is very familiar with the issues surrounding most of the recent controversies in sports doping. This presentation reviews those controversies and their implications for regulators, crime authorities, medical professionals and sporting codes and clubs. The circulation of “illegal” performance enhancing substances through gyms, bikie gangs, via theft from pharmacies, vets and other depositories is a real cause for concern.



The age of personalised medicine in oncology - Associate Professor Desmond Yip

A/Prof Desmond Yip is the Director of Medical Oncology at The Canberra Hospital and also the Medical Oncology Research Unit. He is an active member of the Australasian Gastrointestinal Trials Group and has been involved in the design and conduct of phase I,II and III clinical trials. His main clinical and research interests are in the area of gastrointestinal oncology and development of novel biological agents. He also has subspecialty interests in renal cell carcinoma and gastrointestinal stromal tumours. He has been involved in the setting up of a breast cancer tissue collection centre in Canberra as part of the Australian Breast Cancer Tissue Bank.

Desmond gives context to the challenges facing oncology - an ageing population means real problems in sustaining the health system. The search for treatments for cancer is a long and expensive one from *in vitro* testing through to phase IV surveillance and relies on large doses of serendipity for significant breakthroughs. Developments in targeted therapies (monoclonal and small molecule inhibitors - ‘mabs and ‘mibs) constitute real advances. Perhaps the best analogue to Moore’s law (of the computer world) in the cancer world is in the lowering cost of genome testing. It is now within the realm of possibility to have widespread genomic testing for many cancers.



The Sun is trying to kill me - Dr Jane Twin

Jane is a pathologist with Capital Pathology. She has a long interest in Cytopathology and has been involved with the Australian Society of Cytology at a National Level since 1991 as a Councillor and on the Board of Examiners. She has a strong interest and experience in Gynaecological and Skin Pathology.

Jane reviews the types of radiation from the sun - UVA (95%) and UVB. UVA penetrates glass and deep into the dermis causing premature ageing and indirect DNA damage. UVB is the primary cause of sunburn and causes more direct damage. Melanoma occurs mostly in sun damaged areas of the skin and is the most common type of cancer in young Australians. It causes 8% of all cancer deaths in this age group. There appears to be a genetic and environmental component in melanoma causation. There are various types including superficial spreading and nodular. Diagnosis is based on observed changes, dermoscopy and excision for pathology. Jane's presentation covers prevention, prognosis and treatment.



"...E anche, Il Sole sta Tentando di Mutilare Me" -

(Trans: "...And the sun is trying to maim me too") - Dr Julie Hewitt

Julie grew up in the Bay of Islands and completed medicine and GP training in Auckland before moving to Canberra in 1989. She ran her own practice for 20 years. After five years in corporate medicine, she has decided to go back to general practice where she can focus on her special interests in skin cancer and women's health - not to mention many other interests! Julie, together with her partner Wayne, tend a 10 acre property in Marlborough NZ with a view to retirement.

This presentation looks at the non-melanoma skin cancers: Squamous Cell Carcinoma (SCC) and Basal Cell Carcinoma (BCC). Australia leads the world in these cancers. Julie describes the epidemiology, causes, risk factors, diagnosis, and treatment options with the benefit of truly terrifying graphics.



Invasive SCC

A Shore Thing - Robert Twin

Robert is director of Applied Land Systems Pty Ltd. He is a spatial science professional with over 40 years in the government and private sectors. He is a registered surveyor with various degrees and diplomas in surveying science and an MBA. His capabilities extend over project management, Information system design, asset information systems, GIS and Web mapping and measurement and surveying.



This presentation points to an energy Nirvana. This is defined as a free and dependable source that is easy and cheap to capture, simple and low cost to convert to a useable form and has minimal distribution cost using existing networks. Wave energy technology is moving to a point where it can meet these criteria. There is an abundant wave supply located near population centres. Waves, created by wind passing over water, can be seen as a form of wind power but have a greater consistency and predictability than direct wind energy. Robert reviews a number of alternative wave power designs and identifies a particular technology (CETO from Carnegie Wave Energy Limited) into which he is prepared to put his own money. It has a number of advantages including: the simplicity of a system using tried and tested technology, flexible and scalable deployment, submerged units offering storm survivability and minimal impact. They can also be readily integrated with a desalination process. If we ignore wave power we risk being dumped!

Energy: from Myth to Mouth to Health - Wayne Thompson

Wayne completed a chemistry degree in Auckland before working in breweries and as a management consultant for KPMG. He is now a technical research officer with CSIRO and a viticulturist in Murrumbateman having followed the love of his life across the pond to Canberra. Wayne and Julie eagerly anticipate retirement in their Marlborough paradise tending nuts and olives.



Wayne draws inspiration in this presentation from some of the myths of his Maori forebears. Maui, the son of a demigod, slowed the sun to gain benefits of light and heat for agriculture and play. This story conveys the process of wine production via *saccharomyces cerevisiae* - the organism of fermentation originally isolated from the skin of grapes and now considered the most useful of fermenting yeasts due to its role in winemaking, baking and brewing. Photosynthesis uses the energy of the sun to synthesise carbon dioxide and water to form carbohydrates and oxygen. *Saccharomyces cerevisiae* converts the carbohydrates to alcohol and carbon dioxide. The skin of red grapes is also responsible for resveratrol - an important antioxidant that is credited in a number of studies with life extension, cancer prevention, cardioprotective effects and other benefits. In the wine industry today, the loop is being closed as solar-powered sensors are used to measure the solar gain. Wayne's presentation style was a stand out winner. From now on we're all concluding with a palate-testing quiz!

Medical Technology Association of Australia (MTAA) - Susie Tegen

Susie recently took on the role of CEO of MTAA. She has over 20 years' experience in the medical and health, as well as in the agribusiness sectors. She has previously been CEO at The Royal Australian and New Zealand College of Ophthalmology (RANZCO) and is a Board Director at Sight for All, Australian Rural Leadership Foundation and Health First Network.



Susie's presentation makes us aware of the expanding role that medical technology is likely to have. The demographic trends, discussed elsewhere, will see a halving of numbers of working people supporting each retiree by 2050. This together with obesity, will see an increase in the already substantial number of people with implanted medical devices. The medical technology industry needs to work on a number of fronts to ensure medical technology is appropriately regulated, developed and supported. Important activities include red-tape reduction, code of practice development and compliance monitoring, consumer health forums, smart monitoring in the home and development of Apps. Some principles for effective lobbying are discussed including the need to: set a positive tone, build relationships, keep asks simple, praise when justified and avoid surprises.

A history of refractive vision surgery - Dr Iain Dunlop

Iain is a widely respected ophthalmologist and serves on numerous advisory committees. He was integral in establishing the Canberra Eye Hospital and the Canberra Microsurgery. He is active in the Royal Australian and New Zealand College of Ophthalmologists (RANZCO), and the AMA.

His interests include cataract and refractive surgery, botulinum toxin and strabismus, and retinal disorders.

Iain explains the anatomy of the eye and corneal accommodation for near and far sight. The early techniques that were employed to achieve accommodation surgically included radial keratotomy. These were pioneered on Japanese soldiers. The advent of the Excimer laser in 1970 was the technological development that allowed the very fine ablation involved in PRK and LASIK surgery. Lasers have been progressively refined to the point where corneal cuts can be minimised. The latest machines allow lenticules to be removed to ensure the structure of the cornea maintains maximum integrity. FLEx (Femtosecond lenticule extraction) and "SMILE" (SMall Incision Lenticule Extraction) techniques are discussed and the Australian experience reviewed.



Informed Consent: Is there a minimum? - Professor David Hardman

David is a vascular surgeon. In addition, he has qualifications in law and maintains an active medico-legal practice. He holds positions at the Australian National University and the University of Canberra and serves on numerous committees and boards.

In this discussion of informed consent David reviews the changing attitudes and standards over time. These have evolved from the Hippocratic teaching that patients be told nothing, through to the modern approach requiring competent adults to be fully aware of and determine treatment. Elements of informed consent are itemised including competency, freely made choice, and full information on the procedure (regarding nature and purpose of treatment, risks, consequences and alternatives). The landmark case of *Rogers v. Whittaker* (1992) is reviewed together with *Rosenberg v. Percival* (2001). Information provision must be issue-specific and balance remoteness of risk against possible consequences. Some practical consequences are that simply handing over a pamphlet is not adequate. Patient inquiry is grounds for particular attention in addressing all possible questions. A practice of contemporaneously documenting discussions in patient notes and communicating those notes to a third party e.g. patient's GP is protective in the event of adverse outcomes.



Energy and the ankle - Associate Professor Paul Minter

Paul has over 15 years experience in clinical orthopaedic surgery. He serves as an International Editor for *Techniques in Foot and Ankle Surgery*, an internationally recognised journal specialising in foot and ankle surgical techniques. Paul continues a rigorous post graduate training programme and is a member of the Australian Foot and Ankle Society and the American Orthopaedic Association.

Paul draws on classic formulas from physics describing kinetic energy to put ankle injuries into context. He also cleverly addresses the energy focus required to deliver an engaging presentation, based on learnings from the American Orthopaedic Association. These introductory remarks are followed by an overview of ankle and foot injuries - physiology, history taking using indicators such as bruising, swelling and weight bearing. The “magic three weeks” is a criterion for identifying whether treatment is likely to be necessary. The “Where does it hurt?” question often suggests the type of treatment, if any, required. Particular types of injury described include; syndesmosis, perineal tendon injuries, inflammatory synovitis, tendo-achilles injuries, lateral talar process, turf toe, Lisfranc tear, and talar dome lesions.



Clots in the Alps - Dr Bill Burke

Bill is a Respiratory and General Physician practising in Canberra. His expertise includes management of respiratory and sleep-related disorders, as well as lung function testing for diagnosis and management of conditions such as asthma, pulmonary fibrosis and COPD.



Bill takes us through an exciting tour of the probable, possible and the highly unlikely as far as pulmonary embolus (PE) goes. Diagnosis of PE is illustrated by reference to two case studies. In the first case a woman returned from an overseas trip and was symptomatic (increasing chest tightness). CT did not reveal the PE and leg dopplers did not demonstrate DVT. However ventilation / perfusion lung scan did reveal abnormalities consistent with PE. The case illustrates the importance of clinical assessment before imaging and reinforces the findings of the major prospective multi-centre PE study (PIOPED II) even though the patient in this case had a very low risk according to the scale developed in PIOPED II. The second case involves a rarely diagnosed instance where a clot travels through a lateral opening in the heart, instead of going into the lungs to cause a PE. This is known as Paradoxical Embolism. Discussion suggested that this may occur more frequently than we are aware due to cryptogenic origin of 35-40% of strokes and 5-10% of heart attacks with normal coronaries.