

# Presentations from the 9<sup>th</sup> International Conference on Herbal Medicine

## ORAL PRESENTATIONS

Oral presentations from the 9th International Conference on Herbal Medicine 2015. Sydney, New South Wales, Australia. 20-22 March 2015

### Environmental and endogenous toxins, the primary causes of disease in the modern world

Joe Pizzorno

SaluGenecists, Inc. Seattle, Washington, United States

#### Abstract

For most chronic diseases, the most important risk factor in Western civilizations is now toxic load. When most clinicians think of the key risk factors for diabetes, we immediately—an appropriately—list obesity, lack of exercise, consuming excessive refined foods and—for those more knowledgeable in nutrition—a deficiency of chromium, magnesium and fibre. Dwarfing all these risk factors is exposure to persistent organic pollutants (POPSs). Those in the top quintile of POP body load compared to those with the least have over a 10-fold increased risk. Toxins can be from the environment, from incomplete intermediate metabolism, even from the gut. In addition, many toxins are of choice. Toxins include chemicals—persistent and non-persistent; heavy metals like arsenic, cadmium and lead; bowel toxins like indoles and endotoxins; leaking gut caused by zonulin release after wheat consumption (depending upon haptoglobin type); excessive alcohol or salt consumption. All cause short-term as well as cumulative damage stressing metabolism resulting in decreased health and increased risk of disease. Few realize that only 20% of disease is due to genetics—all the rest is due to toxic load, nutrition deficiencies and excesses, and lifestyle behaviours.

This presentation provides a comprehensive overview of toxins (whatever their source), how they cause damage, the key diseases they cause or aggravate, how to assess body load and detoxification function, and ways to decrease intake/production and increase detoxification/excretion.

### Developing sustainable prescribing habits: Utilising weeds as alternatives to endangered species in clinical practice

Phil Rasmussen

Phytomed Medicinal Herbs Ltd, Auckland, New Zealand

#### Abstract

A combination of shrinking habitat and growing popularity is resulting in the demise of an increasing number of our favourite medicinal herbs. Recent estimates are that 22 to 47%, of global flora are threatened with extinction.

A concurrent trend with climate change and increased global travel and trade, is the spread of so-called 'noxious' plants into new non-indigenous habitats. These compete successfully with native species to reduce their ability to retain and expand in their own natural habitat, and control methods rely largely on chemical herbicides or human labour.

Through wildcrafting invasive plants with established therapeutic activities and processing them into medicines, medical herbalists can help reverse the decline of medicinal plants, and extend their care and attention given both to patients and to the environment, which provides us with our healing tools.

Useful outcomes include improvement in our patients' health, a reduction in the rate of spread of invasive introduced plant species, increased prevalence of native flora, and a lower carbon footprint.

Evidence suggesting clinical usefulness of a number of medicinal herbs generally regarded as weeds in New Zealand and Australia, will be discussed. Species will include *Ligustrum lucidum*, *Lonicera japonica*, *Tropaeolum majus*, *Verbascum thapsus*, *Fragaria vesca* and several others.

## Herbalism 3.0

Jonathan Treasure

Centre for Natural Healing, Ashland, United States

#### Abstract

This presentation will give a novel overview of traditional western herbal medicine intended to provide

an interventional framework for contextualising the challenges which our diverse community of practitioners of western herbalism face today. Drawing on key concepts from the history and philosophy of science, “three epochs” of Western herbal medicine are defined, up to and including the current decade with its recent explosion of knowledge generated by “omic” sciences, bioinformatics, systems biology, complexity & network pharmacology. I suggest that herbal medicine needs to radically retool what are often regarded as inviolable legacy core concepts that I suggest are now constraining its necessary transformation. Additional heuristics will be employed to illuminate various aspects of current diverse sociological trends in modern herbalism. The aim is to facilitate development of a coherent strategy for appropriate repositioning of herbal medicine in the future as a discipline in relation to medical and life sciences, and as a profession in relation to delivery of clinical care.

### **Ideals and realities: evidence-based practice and practice-based evidence.**

Jeff Flatt

University of New England, Armidale, Australia

#### **Abstract**

**Background:** Many evidence-based interventions tend to be generated by researchers with minimal knowledge of the evidence application environment. As all healthcare professions apply distinctive types of knowledge in practice, there are ongoing debates about what evidence means. This subject is relevant to complementary medicine and can be explored through examining practitioner reasoning of evidence in practice.

**Methods:** Participants from the Western herbal medicine and naturopathic professions were interviewed and their thoughts on evidence in practice were analysed within a critical theory framework. The findings were related to theories of knowledge, philosophies of evidence and principles of practical reasoning.

**Findings:** This research identified a well-reasoned application of different knowledge's in practice. There is a process of therapeutic intervention residing within patient concerns, practitioner expertise and clinically appropriate knowledge. Patient outcomes are the primary indicator of effectiveness and the dominant research model does not provide evidence for essential aspects of work practice.

**Conclusion:** Practitioners are aware of the positive and negative qualities of evidence generation methods and are negotiating these through a breadth of knowledge types assessed against patient outcomes. This is a rational assessment of knowledge in context-sensitive situations that is referenced to a developed model of practice-based evidence.

### **Reconnecting with the heart of practice**

Karen McElroy

Noosa Holistic Health, Noosa, Australia

#### **Abstract**

The modern scientific approach has led many practitioners away from their traditional roots towards a one-sided approach to practice. Without a more holistic philosophy and broad foundation, in both our personal lives as well as in our role as practitioners, it is easy to become disenfranchised and burnt out. What is needed is an integration of the head and the heart.

This session will look at how we can practice in an integrated way – bridging the two worldviews of science and spirit, and work towards developing a truly holistic, modern and sustainable practice. Karen will explore traditional wisdom, modern integral theory and new research into the physiology of the heart, as well as examining the importance of self-care for the practitioner and integrating mind-body medicine for ourselves and our patients.

### **Exotic infections and how to manage them with herbal medicines: A research and clinical practice approach**

Karen Bridgman<sup>1</sup> and Jennie Burke<sup>2</sup>

<sup>1</sup> Starflower Pty Ltd, Sydney, Australia

<sup>2</sup> Australian Biologics Testing Services Pty Ltd, Sydney, Australia

#### **Abstract**

One of the greatest challenges humans have always had to face is the spectre of infection. From simple (or complex) infections that affect individuals; to the epidemics that affect geographical regions; to the potential global epidemics of today; these have always been a major issue. Their successful management (or otherwise) can determine whether we live or die.

With the arrival of antibiotics and our heroic medicine, initially there was some success (particularly if accompanied by a knowledge and practice of adequate hygiene), but today medical over-prescription and the increasing levels of antibiotics in the environment, are mutating these organisms into ‘superbugs’ that are becoming a major worldwide challenge to manage.

Our heroic stance in attempting to eradicate these organisms is turning against us and the organisms are proving smarter than we have ever imagined. ‘Superbugs’ and their protective biofilms are a whole new challenge that urgently needs to be re-evaluated - not only for our

health, but maybe also for our survival.

Herbal medicines have managed infections for millennia. While our challenges are slightly different today, reviewing the latest research and the clinical use of herbal medicines in the management and treatment of these organisms is showing great promise.

## **Naturopathic cooperative clinics - providing a sustainable and equitable alternative to the private fee-for-service model**

Amanda Reimann,<sup>1</sup> Sonia McNaughton,<sup>1</sup> and Stuart Glastonbury<sup>1</sup>

<sup>1</sup>Mayfield Medical connection, Newcastle, Australia

### **Abstract**

There is a rich tradition in many areas of business that utilise the cooperative structure. Due to this structure, cooperatives are able to provide an ethical and community-owned alternative to the private or public economic health models.

The cooperative model has had a rich tradition in health care service delivery in Australia however this has dramatically declined over the last 100 years. There is now a resurgence of support for this model in mainstream medicine but in naturopathic health care service delivery it is yet to realise its potential.

This presentation will look at the history and philosophy of the cooperative business structure and its current role in health care service delivery in Australia. It will also examine how this model may effectively provide a sustainable and equitable business model for naturopathic practitioners.

## **Transiting menopause: Herbal medicine efficacy and safety**

Michelle Boyd

Herbs on the Hill, Brisbane, Australia

Endeavour College of Natural Health, Brisbane, Australia

Flordis Natural Medicines, Sydney, Australia

### **Abstract**

Menopause is a natural life stage, it is not a disease. Managing menopausal symptoms is only one part of the big picture in supporting women's adjustment through mid-life changes. Ideally, planning for menopause should start long before it occurs.

Menopause usually occurs from 45 to 55 years of age. It can take a woman 4 to 7 years to transit menopause and this stage of fluctuating hormones (and hence irregular menstrual cycles) is referred to as peri-menopause. Peri-

menopause is recognised by many as a time of 'hormonal chaos' during which up to 80% of women suffer from both physical and emotional symptoms, including hot flushes, sweats, anxiety/depressed mood, and insomnia. The severity of these symptoms dictates that menopausal patients require effective remedies.

Post-menopausal women continue to experience at least one menopausal symptom; almost 50% will report more than five. However, it is the 'silent changes' due to the decline in the 'protective effects' of oestrogen that require far more important attention. Cardiovascular disease is the leading cause of death in post-menopausal women and cardiovascular markers like increased body weight (especially abdominal fat), hypertension and dyslipidaemia, all increase post-menopause.

Michelle will present the results of a review of the most recent research reporting on the efficacy and safety of herbal medicines currently used for the management of women through menopause.

## **Declining naturopathy and Western herbal medicine consultations despite increased herbal medicine use: Are practitioners obsolete?**

Jane Frawley,<sup>1, 2</sup> and Erica McIntyre<sup>3</sup>

<sup>1</sup> Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Sydney, Australia

<sup>2</sup> Endeavour College of Natural Health, Brisbane, Australia

<sup>3</sup> Charles Sturt University, Wagga Wagga, Australia

### **Abstract**

Background: The international use of complementary and alternative medicine (CAM) is high with many recent estimates showing that product use is increasing. Herbal medicine is one of the most popular CAM treatments both internationally and within Australia. If taken incorrectly herbal medicines can have serious implications, especially in certain conditions such as pregnancy and mental health problems.

Method: Two studies were conducted. Participants representing two patient groups, pregnant women (n=1,835) and adults with anxiety (n=400), participated in one of two cross-sectional surveys to determine the prevalence of herbal medicine use, frequency of self-prescription, and information sources used to inform herbal medicine use. These patient groups were selected due to recent concerns raised in the literature about CAM utilisation during pregnancy and in patients with chronic mental health conditions.

Results: A high rate of herbal medicine use was demonstrated in both studies. In addition, participants

were most likely to self-prescribe herbal medicine and rely on advice from family and friends.

**Conclusion:** High numbers of pregnant women and adults experiencing anxiety are using poor quality, non-professional information sources to inform the self-prescription of herbal medicine. Further research is required to elucidate any safety issues and understand why trained professionals such as naturopaths and Western herbal medicine practitioners are not being consulted. The practical implications of the practitioner's role in assisting people to make good choices about their herbal medicine use is discussed.

## Potency of herbal medicines: A quantitative survey

Hans Wohlmuth

Integria Healthcare, Brisbane, Australia

### Abstract

**Background:** The variable quality and potency of herbal medicines is well recognised by most practitioners but less so by consumers. The determinants of quality are many, including germplasm, growing conditions, harvesting time, post-harvest handling, storage, and extraction and manufacturing processes. In order to provide some measure of potency, herbal medicines are commonly described in terms of the amount of crude herb used to produce the final product. Thus liquid extracts are typically described by their herb-to-extract ratio, whereas tablets and other solid dose forms are commonly described by their dry herb equivalence, i.e. the mass of dried raw material extracted to produce the amount of extract present in the dose.

**Methods:** We undertook a comparative testing program of a range of herbal medicines, both practitioner-only and retail products, from Australian and overseas markets. Select active constituents were assayed using validated HPLC methods.

**Results:** The data, which will be presented in de-identified form, demonstrate that very large quantitative differences in active constituents occur between herbal medicines that would be expected to be very similar based on label claims (i.e. same species, plant part, herb-to-extract ratio or dry herb equivalence). For example, the total alkylamide content of two *Echinacea angustifolia* root 1:2 liquid extracts differed by a factor of ten.

**Discussion:** The herb-to-extract ratio and dry herb equivalence are not accurate means of quantifying the potency of a herbal medicine. Combining these parameters with the concentration of key active compounds would provide for a far more accurate description of a medicine's potency.

## Menstrual migraines: management by the herbal practitioner

Sandra Villella

Private practice, Melbourne, Australia

Endeavour College of Natural Health, Brisbane, Australia

### Abstract

Menstrual migraines and menstrual-related migraines affect about 7% of women and about 50% of women who suffer with migraines generally. Menstrual migraines are reported to last longer, be more disabling, less responsive to acute treatment and because of the cyclical nature, predictably recur. Fluctuation in oestrogen is believed to play a role in pathogenesis. Cyclical herbal therapy can effectively moderate the severity of the headache and possibly reduce the frequency of attacks. Herbs that have a role in oestrogen modulation as well as those which address the traditional understanding of migraine will be explored. The evidence for dietary phytoestrogens as part of menstrual migraine management will also be discussed.

## The effect of the bitters, *Artemisia absinthium* and *Gentiana lutea* on gastric phase postprandial haemodynamics

Michael McMullen

University of Westminster, London, United Kingdom

### Abstract

The use of bitter tasting herbs for the treatment of digestive problems has an ancient history and is a common feature of many traditional medical systems. Their usage declined in the western medical systems during the second half of the 20th century perhaps for no other reason than that pharmacologists could not define their mechanism of action.

This presentation of my research describes how various bitters elicit responses altering postprandial haemodynamics. Postprandially, adequate splanchnic hyperaemia is necessary for normal digestive function: the production of digestive secretions, movement of chyme as well as the absorption and removal of digested nutrients.

Traditional medical systems use bitter herbs as hot/cold decoctions and as pills/tablets/capsules. Additionally, Mediterranean peoples have since antiquity used bitter herbs as flavourings for various alcoholic drinks. These alcoholic preparations have developed into pharmaceutical products, fluid extracts and tinctures, and beverages including aperitifs (before meals) and digestifs (after meals).

My studies involved two of the most commonly used



European medicinal herbs, gentian (*Gentiana lutea*, L.) and wormwood (*Artemisia absinthium*, L.), both of which are also widely used, either singly or in combinations, to flavour aperitifs and digestifs. Also investigated was the world's most widely consumed bitter, hot black coffee (*Coffea arabica*, L.), and its extract caffeine.

The results indicate that bitters elicit sympathetic responses affecting the autonomic system and haemodynamics. Gentian and wormwood elicit increased tonus of the resistance vessels, which may support postprandial hyperaemia and moderate postprandial hypotension. In contrast, coffee increases heart rate.

## Use of complementary therapies by registered psychologists: An international study

Peta Stapleton,<sup>1</sup> Hannah Chatwin,<sup>1</sup> Emma Boucher,<sup>2</sup> Sue Crebbin,<sup>3</sup> Sandra Scott,<sup>4</sup> and Dean Smith<sup>5</sup>

<sup>1</sup> School of Psychology, Bond University, Gold Coast, Australia

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<sup>4</sup> New South Wales Department of Education of Training, Australia

<sup>5</sup> Private practice, Melbourne, Victoria

### Abstract

**Background:** Complementary and alternative medicine (CAM) is a category of diverse medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine. However, the use of CAM by lay people is increasing worldwide. This study investigated the utilization pattern of CAM amongst registered Psychologists, and level of training in delivering a CAM service. **Method:** Psychologists (N=193) participated from Australia, United States, United Kingdom and New Zealand. **Results:** Almost all (99.6%) respondents reported using at least one CAM service in the past, and 64.2% indicated they were trained to deliver at least one area of CAM. Users of CAM were more likely to be female. Registered psychologists from New Zealand held less positive attitudes towards CAM, less belief in the scientific validity of CAM, and less willingness to recommend CAM, in comparison to registered psychologists from other countries. Using hierarchical multiple regression, health beliefs and willingness to refer or recommend CAM significantly predicted attitudes to CAM. Furthermore, gender together with attitudes towards CAM and level of training in CAM, significantly predicted attitudes towards CAM. Finally, post hoc analyses indicated that highest level of education

achieved as well as attitudes towards CAM significantly contributed to level of skill achieved by practitioners. **Conclusion:** The findings from this study may be used to inform future policy that aim to encourage CAM use and training amongst registered psychologists.

## Creating, sustaining, and restoring a healthy gastrointestinal tract ecosystem

Jason Hawrelak

University of Tasmania, Tasmania, Australia

University of Western States, Oregon, United States

Goulds Naturopathica, Hobart, Australia

### Abstract

The gastrointestinal microbiota should be viewed as an additional human organ, performing many vital functions on behalf of its host. The modern Western diet and lifestyle, as well as the use of pharmaceutical drugs, has had major repercussions on the functioning of this organ. It is our role as healthcare practitioners to help our patients both protect their microbiota from injury and restore it when it has been damaged. This is not as easy as it was once believed. Research has shown that you cannot successfully 'repopulate' or 'reinoculate' with probiotic supplements or fermented foods. This necessitates a change of approach by clinicians – an approach centred on the idea of nourishing and restoring each patient's unique microbiota utilising specific herbal medicines, foods, and probiotic strains. This is important, not just to the health of that patient, but also to the descendants of that patient, with each individual only a temporary custodian of the bacteria that will influence the health of the next generation.

## Detection and prevention of metabolic syndrome: an integral role for naturopaths and herbalists

Rebecca Hughes

ReMed Natural Medicine Clinic, Melbourne, Australia

### Abstract

The obesity epidemic is a major health crisis in Australia. If weight gain continues at the current rate, by 2025, close to 80% of all Australian adults and a third of all children will be overweight or obese, which is unsustainable. Additionally, obesity is a key player in the development of metabolic syndrome, a well-documented prequel to the development of both Type 2 Diabetes Mellitus (T2DM) and cardiovascular disease (CVD), which account for approximately one quarter of the burden of disease in Australia, and just under two-

thirds of all deaths. Importantly, early detection followed by dietary and lifestyle interventions has been shown to reduce the incidence of progression from metabolic syndrome to T2DM by almost 60%.

However, consistent patient screening in primary care is still variable. Whilst healthcare professionals have easy and clinically relevant point-of-care screening tools available to detect risk factors for metabolic syndrome – taking weight, waist measurement, blood pressure, cholesterol, blood glucose – they are not always conducted. As health care practitioners we have to ask ourselves what is the cost to not only the individual, but also the community? Especially since the reported current economic burden of obesity is estimated at 10% of total health care costs in Australia, equating to \$56 billion.

Naturopathic practice has an integral role to play in the prevention of chronic diseases and the economic sustainability of the health care sector, through early detection, prevention and management of metabolic syndrome, delaying progression of CVD and T2DM.

The author will present metabolic syndrome screening data from naturopaths and herbalists working in a collaborative health care model.

## The Modern Apothecary

**Belinda Robson**

Goulds Naturopathica, Hobart, Tasmania

### Abstract

The traditional apothecary was a place where medicines were formulated & compounded, and trained physicians offered general medical advice, and consulted with patients. In 21st Century Australia, the herbal apothecary is rare, having been replaced by surgeries, clinics, specialist practices and pharmacies. The practice of herbal medicine has largely retreated behind the closed doors of private practice, and is predominantly only within the reach of middle-upper socioeconomic patients.

Yet there is scope for the herbal apothecary to compliment and co-exist with these practices. The apothecary serves as means accessing a broader cross section of the population, and providing health care in an affordable and time-efficient manner. It can be promoted in a way that exposes a greater number of people to healthier and more sustainable ways of life, thus reducing the burden on the health budget. And it can be used as a means of supporting other health practitioners within a community through cross referrals and collaborative professional relationships.

This presentation will explore the modern day apothecary as a sustainable business model, a valuable and needed community service, and a means by which we can expand and fortify our profession.

## Herbs and the microcirculation: The unrealised potential and unexpected outcomes

**Kerry Bone**

Integria HealthCare, Brisbane, Australia

New York Chiropractic College, New York, United States

### Abstract

In this presentation, the proposition that treating the microcirculation using medicinal plants is an underutilised therapeutic strategy is further explored. Recent reviews have highlighted the importance of a healthy microcirculation in health and disease. In particular, changes to the microcirculation could play a key role in ischaemic heart disease, insulin resistance, liver injury, the negative effects of smoking, poor healing after anaesthesia and neurodegeneration. These issues will be discussed via a review of the current publications, together with the best available evidence for the favourable impact of herbs on microcirculatory outcomes. A series of simple dietary protocols are outlined for treating the microcirculation, as well as just a few key herbs that can be administered in tablet or liquid form, making this a very sustainable and affordable strategy. Some surprising and unexpected clinical outcomes will be conveyed via case histories.

## Differentiating between coeliac disease and non-coeliac gluten sensitivity through accurate clinical assessment

**Warren Maginn**

Private practice, Brisbane, Australia

### Abstract

**Introduction/Aim/Background:** Despite the prevalence of Coeliac Disease (CD) having grown to over 4 times what it was only 50 years ago, it is still estimated that as much as 90% of celiac disease still currently goes undiagnosed. The obvious and immediate signs may not present themselves until many years of disease progression has already taken place.

Beyond purely dietary sources, complimentary medicines (including herbal formulations) represent potential additional sources of chronic gluten exposure, subsequently complicating the diagnostic/therapeutic process.

Whilst the ultimate diagnosis has been traditionally based on the histological analysis of small intestinal mucosa obtained via tissue biopsy, the assessment of auto-antibodies such as anti-tissue transglutaminase

(tTG) in patient's serum has been shown to provide substantial assistance in the evaluation of CD.

However, due to certain circumstances that result in variability to the specificity and sensitivity of tTG as a categorical indicator of CD, further markers have been pursued to arrive at a universally satisfactorily robust serological test for CD.

This review seeks to explore the current indications and sensitivities of various serological testing methods and subsequently further elucidate a growing class of pathology recognised as 'non-celiac gluten sensitivity', to distinguish between these many facets in a clinically practical manner to address this growing necessity.

Results: Deamidated Gliadin Peptides (DGP) present themselves as an invaluable addition to any gluten-focussed investigation - and when combined with tTG represents the highest sensitivity (over 95%) available for the serological characterisation of Coeliac Disease.

Conclusion: Existing serum blood tests for IgA and IgG antibodies to gluten sub-fractions as well as wheat IgE antibodies can now be combined with measurements for tTG and DGP antibodies to allow an incredibly broad and accurate investigation of gluten-related pathologies through a single clinical test.

## Herbal medicines and chemotherapy-induced peripheral neuropathy (CIPN): A critical literature review

Janet Schloss,<sup>1,2</sup> and Luis Vitetta<sup>1</sup>

<sup>1</sup> University of Queensland, Brisbane, Australia

<sup>2</sup> Endeavour College of Natural Health, Brisbane, Australia

### Abstract

**Background:** Chemotherapy-induced peripheral neuropathy [CIPN] is a common significant and debilitating side-effect resulting from the administration of neurotoxic chemotherapeutic agents. These pharmacotherapeutics can include taxanes, vinca alkaloids, platinum analogues and others. Moderate to severe CIPN significantly decreases the quality of life and physical abilities of cancer patients and current pharmacotherapy for CIPN e.g. Amifostine and antidepressants have had limited efficacy and may themselves induce adverse side effects.

**Methods:** To determine the potential use of herbal medicines as adjuvants in cancer treatments a critical literature review was conducted by electronic and manual search on nine databases. These include PubMed, the Cochrane Library, Science Direct, Scopus, EMBASE, MEDLINE, Google Scholar and two Chinese databases CNKI and CINAHL. Thirty-four studies were selected

from 5614 studies assessed and comprised of animal studies, case reports, retrospective studies and minimal randomised clinical trials investigating the anti-CIPN effect of herbal medicines as the adjuvant intervention in patients administered chemotherapy. The thirty-four studies were assessed on methodological quality and limitations identified.

**Results:** Studies were mixed in their recommendations for herbal medicines as an adjuvant treatment for CIPN.

**Conclusion:** Currently no agent has shown solid beneficial evidence to be recommended for the treatment or prophylaxis of CIPN. Given that the number of cancer survivors is increasing, the long-term side effects of cancer treatment, is of major importance.

## Challenging herbalists' mindset regarding the theory and use of bitters

Michael McMullen

University of Westminster, London, United Kingdom

### Abstract

Discoveries and studies since 2000 provide new information which challenges the theory and usage of bitters recommended in herbal texts.

Herbal texts emphasize that bitters improve digestion by stimulating oral receptors which elicits increased vagal flow to the gut and subsequently increased digestive activity. This action is upheld as a generalised effect, characteristic of all bitters, and does not occur if bitters are administered directly into the gut. Furthermore, the pharmacological impact of bitters beyond digestion is generally rejected.

However, the existence of 25 types of bitter oral receptors suggests that at some level the body may differentiate between bitter tastants and challenges the notion of a generalised bitter effect. With bitter taste receptors located throughout the gut and in other tissues not related to digestion (including the bronchus, brain, heart and testes), bitters may be therapeutically active in tissues unrelated to digestion. Consequently bitters may possess both primary (digestive) and secondary (non-digestive) activity.

Caffeine, a bitter found in coffee, stimulates oral receptors increasing heart rate while encapsulated caffeine stimulates gut receptors eliciting increased diastolic pressure. Thus responses to bitters are likely specific to the anatomical position of the receptors rather than the agonist.

Gentian and wormwood stimulate oral receptors eliciting sympathetically-mediated responses that increase total peripheral resistance. This haemodynamic response can support blood pressure during postprandial

hyperaemia and, by itself, could account for the use of gentian and wormwood to treat indigestion.

Incorporating these findings into clinical practice involves a paradigm shift in the way herbalists' view and use bitters.

## **Is this Working? Clinical outcome measures in practice and education**

Ian Breakspear

WholMed Consultancy, Sydney, Australia

### **Abstract**

A strong and sustainable health profession is one which can demonstrate its efficacy, and thus relevance. Clinical trials are only one way of demonstrating efficacy, and are inherently problematic in generating quality evidence for herbal and naturopathic practice. So what is the alternative?

Whether it be in the population-centric context of clinical trials, or the patient-centric context of one-on-one consultations, the key to determining efficacy is found in the consistent application of clinical outcome measures.

But what are outcome measures, and how can they be applied in daily practice? How can clinical outcome measures be integrated into the education of herbalists and naturopaths?

The presenter will apply his extensive clinical and academic management experience to a discussion of these issues. He will focus on how clinical outcome measures can be used in both the formative and summative assessment of students in clinical training, thus improving learning and clinical competence. Ian will also show how, through the use of outcome measures and published case studies, each and every herbalist and naturopath can contribute to the evidence base, and thus the sustainability, of our profession.

## **Optimising mitochondrial function: The key to longevity, vitality and prevention of disease**

Joe Pizzorno

SaluGenecists, Inc. Seattle, Washington, United States

### **Abstract**

How much adenosine triphosphate (ATP) does the healthy body produce every day? How much ATP is produced every minute during maximal exercise? The amount of ATP required for life is astounding and adequate ATP production by the mitochondria is essential for health and wellbeing. Optimal ATP production produces robust health and resistance to disease. ATP

production is so important (virtually every enzyme is dependent upon ATP to work) that mitochondria take up as much as 25% of the cell volume. Unfortunately, because of their high metabolic activity, mitochondria are especially susceptible to nutrient deficiencies, environmental toxins and oxidative damage. Research now shows that the primary source of oxidative stress in cells is leakage of oxygen and high energy electrons from the mitochondria. Worse, all this leakage of oxidants occurs right next to the mitochondrial DNA which helps explain the 17-fold higher mutation rate in mitochondrial versus nuclear DNA. Even worse, mitochondrial DNA—as opposed to nuclear DNA—cannot be repaired. The strongest predictor of a species' longevity is its ability to protect its mitochondria. Of particular interest, the mechanism of benefit for several important botanical medicines can be traced to their ability to protect mitochondria from oxidative and chemical damage.

This presentation provides clinically relevant information about the mitochondria, how to recognise when and why they are dysfunctional and optimal strategies to re-establish and even improve function. Topics include: mitochondria structure and function; nutrients needed for mitochondrial function; mitochondrial dysfunction; how mitochondria are damaged; assessment of mitochondrial function; ways to protect mitochondria; ways to increase mitochondria ATP production; and a representative patient example.

## **The natural therapies profession: Does it exist?**

Jon Wardle

Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Sydney, Australia

### **Abstract**

Herbal medicine and naturopathy are commonly grouped with other complementary and integrative medicine disciplines under the banner 'natural therapies'. This term is largely borne of convenience due to the difficulties in defining a disparate and varied group of related disciplines, but is increasingly being argued to be a profession in its own right. This is being promoted by multi-disciplinary associations who are encouraging a move away from discipline-specific definitions in an attempt to entrench a broader natural therapies profession. However, to date there has been little formal or critical examination into the 'natural therapies' profession, as it is being promoted. This presentation will look at the historical development of the natural therapies professions in Australia and abroad, draw from sociological and professional development literature and



theory and explore research on public and practitioner perceptions of the natural therapies. Based on these it will be argued that the combined ‘profession’ of natural therapies does not have a historical or philosophical basis, is neither a valid or sustainable profession according to professions theory, and is not recognised outside the complementary and integrative medicine community. The presentation will discuss the strategic, political and professional importance of individual disciplines such as herbal medicine and naturopathy to establish their own strong and unique identities, and the dangers that co-option into a new broader natural therapies may bring. The presentation will outline ways in which herbal medicine and naturopathy can re-establish their unique identity, which is essential to ensuring their ongoing viability.

## Entrepreneurship in holistic healthcare

Brendan Penwarden

Health Masters Live, Mooloolaba, Australia

### Abstract

The global healthcare system is struggling to meet customer requirements and is experiencing multiple crises. Holistic healthcare however, has a strong value proposition and offers tremendous entrepreneurial avenues within and beyond the consultation model.

Entrepreneurship principles exemplify what we need to do to champion and succeed as an industry, and as clinicians. This presentation will examine the essential principles that lay the foundation for success in healthcare businesses.

## Prostatitis: Dousing the flames of pelvic pain

Daniel Robson

Goulds Naturopathica, Hobart, Australia

### Abstract

15% of men at some time of their life will experience symptoms of prostatitis. Diagnosis includes acute and chronic infections of the prostate (acute bacterial prostatitis and chronic bacterial prostatitis), or the more common chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), a poorly understood clinical entity, accounting for 95% of cases.

In this presentation, Daniel will explore this common condition, with particular emphasis on chronic prostatitis/chronic pelvic pain syndrome. Current theories of aetiology, pathogenesis, and the role of naturopathic medicine will be explored. With current conventional

treatments having limited value in CP/CPPS treatment, natural medicine practitioners are well placed to provide a valuable role, in supporting men with what is otherwise a perplexing clinical syndrome.

## Ignore local knowledge at your peril: The story of kava and the ban

Michael Thomsen

HerbResearch, Hobart, Australia

### Abstract

The WHO guideline “Good agricultural and collection practices” for medicinal plants addresses the quality issues in the production of herbal raw material.

It covers recommendations ranging from the selection of appropriate seed material and cultivation sites down to the avoidance of contaminations in post-harvesting handling, training and working conditions of the personnel, and general rules for handling and construction of tools and facilities. Unfortunately, herbal extract manufacturers and sponsors of finished products are either not aware of these guidelines or simply do not care. The story of *Hargapophytum procumbens*, a native of Namibia and how a German company deliberately undermined attempts to develop a sustainable cultivation will illustrate this fact.

The presentation will also reveal the truth behind the outbreak of kava toxicity that led to the worldwide ban and the successful legal challenge led by Dr Schmidt of HerbResearch which saw the ban lifted.

## The labour and birth outcomes associated with the use of herbal medicine in pregnancy.

Amie Steel,<sup>1, 2</sup> Jane Frawley,<sup>1, 2</sup> Jon Adams,<sup>2</sup> David Sibbritt,<sup>2</sup> and Alex Broom<sup>3</sup>

<sup>1</sup> Endeavour College of Natural Health, Brisbane, Australia

<sup>2</sup> Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Sydney, Australia

<sup>3</sup> Faculty of Arts and Social Sciences, University of New South Wales, Sydney, Australia

### Abstract

Background: The practice of herbal medicine and naturopathy is steeped in the roots of traditional knowledge and yet it is now practiced in a society that values research evidence above all else. Unfortunately, much of the research available which examines elements of herbal medicine or naturopathy is found irrelevant to the realities of clinical practice. This circumstance has

created an ongoing tension within those in the profession wishing to embrace the benefits of clinical research without abandoning the insights found from both historical knowledge and personal clinical experience.

**Method:** This presentation will highlight the importance of practitioner involvement in research. An overview of a broad cross-section of research approaches will be discussed with an emphasis on their potential ability to contribute to a better understanding of the practice of herbal medicine and naturopathy. Within each research method discussed, the importance of practitioner insights and perspectives within the design/implementation of a study will be considered. Likewise, the risks to both professions of continued research occurring without practitioner involvement will also be raised. Finally, the diverse ways practitioners can be involved in research projects, irrelevant of research background/experience and available time will be outlined.

**Discussion/Conclusion:** Without appropriate practitioner involvement in future research examining herbal medicine and naturopathy, both professions are at risk of having already scarce research dollars expended on projects which do not answer questions of value. This can only be solved by practitioners realising that researchers need herbalists and naturopaths just as much as naturopaths and herbalists need researchers.

## The Goulds internship program

Jason Hawrelak<sup>1, 2, 3</sup> and Dawn Whitten<sup>1</sup>

<sup>1</sup> Goulds Naturopathica, Hobart, Australia

<sup>2</sup> University of Tasmania, Tasmania, Australia

<sup>3</sup> University of Western States, Oregon, United States

### Abstract

Goulds is a busy established apothecary (since 1881), clinic and herb farm in Hobart. Goulds began running an internship program in 2008 with the aim of providing a bridge into clinical practice for recent graduates. The internship aspires to promote systematic clinical thinking, critical appraisal skills, ethical medicine sourcing, an appreciation for quality issues, connection with the living medicinal plants, and confidence in manufacturing. The first internships were run in a kind of apprenticeship model and involved recent graduates committing to a 6-month program, where they spent time in the apothecary, observing long consultations, and growing and harvesting herbs on the farm. The learning outcomes arose organically based on the clinical presentations and the farming operations at the time. After several years of running the internship, followed by a 2-year break, Goulds is running the internship again but trialling a more structured delivery

## Healthy Business Models: Sustaining our passion for practice

Keonie Moore

ReMed Natural Medicine Clinic, Melbourne, Australia

### Abstract

Naturopaths and Western herbalists constitute a considerable proportion of the Australian healthcare sector and often act as the primary care provider for Australian patients. However, even with the strong growth of the complementary and alternative medicine industry, many practitioners are struggling to receive appropriate remuneration in return for their endeavours.

Healthy business models will be explored in context of internal and external factors that influence success rates in business with a specific focus on the challenges faced by naturopaths and Western herbalists.

The presenter will outline key elements to successful business practices based on established successful clinics in Australia as an approach to implementing thriving business models that sustain our passion for practice.

## Perceptions and practice behaviours of midwives and naturopaths after interprofessional education intervention

Helene Diezel,<sup>1, 2, 3</sup> Amie Steel,<sup>1, 2, 3</sup> Kate Johnstone,<sup>3</sup> David Sibbritt,<sup>2</sup> and Jon Adams<sup>2</sup>

<sup>1</sup> Endeavour College of Natural Health, Brisbane, Australia

<sup>2</sup> Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Australia

<sup>3</sup> Embrace Holistic Services, Brisbane, Australia

### Abstract

**Introduction:** Complementary and alternative medicine (CAM) is increasingly used in Australia; of particular interest is the rise in CAM consultations for maternity related conditions and complaints. Although CAM use is frequently coming into contact with maternity domains, little is known regarding what formal CAM education midwives receive. Therefore, inter-professional education workshops were designed for midwives and for naturopaths to familiarise midwives with relevant CAM's safety evidence and outline ways for CAM practitioners to engage in the pregnancy care and care teams, helping sustain their profession and practice.

**Methods:** Midwives (n=170) and CAM practitioners (n=28) participated in nationwide workshops. The impact of the workshop on the perceptions and practice

behaviours of the participants was evaluated in 3 stages using pre-workshop, post-workshop and 3 month follow-up questionnaires.

Results: 62% of midwives (n=107) and 100% of CAM practitioners (n=28) completed questionnaires. Significant mean changes emerged for perceived evidence level in all familiarised CAM modalities, highest in naturopathy (+1.2,  $p=0.0001$ ). Perceptions of self-proficiency regarding CAM also improved; specifically perceived knowledge of CAM (+1.44,  $p<0.0001$ ) and ability to answer general questions on safety (+1.45,  $p<0.0001$ ) and effectiveness (+1.40,  $p<0.0001$ ) of CAM in pregnancy.

Conclusions: Interprofessional education may improve conventional practitioners' confidence towards CAM, which supports a specific focus on understanding more about the role of practitioners, such as herbalists and naturopaths. Consequently, the capacity for referral to occur from conventional to CAM practitioners and a better quality of care for women receiving care from the same practitioner can result.

## **The clinical presentation of Australian Lyme disease as it pertains to the herbalist and naturopathic practitioner**

Therasia Jennings

Endeavour College of Natural Health, Brisbane, Australia

### **Abstract**

This presentation will overview the international and Australian clinical diagnostic checklists and criteria used by practitioners to assist in the recognition of Australian Lyme in the clinical setting as it relates to the herbal medicine practitioner.

Controversy surrounding the existence of Lyme borreliosis and associated disorders in Australia has interfered with the provision of adequate health care. As a result, sufferers of Lyme disease are exploring other options of care and presenting in increasing numbers to herbal and naturopathic medicine practitioners for treatment. The aim of this presentation is to bring clarification to the clinical presentation of Lyme borreliosis, providing important symptom picture information and common clinical features as a basis for the creation of clinical diagnostic criteria that can be applied by all health practitioners, including herbalists and naturopaths.

Untreated Lyme borreliosis and its associated co-infections manifests into a chronic systemic condition involving neuropsychiatric symptoms, immune dysfunction, metabolic and hormonal imbalances, opportunistic infections, co-infection complications,

biological toxins, and compromised energy metabolism. This multi-system presentation is well managed by naturopathic and herbal holistic approaches to care.

Unfortunately, variants to a complex clinical presentation exist throughout the world, which complicates the clinical recognition of a specific presentation in Australia and may result in a misdiagnosis. A review of overseas clinical diagnostic criteria and checklists will be compared to locally identified symptom expressions and rudimentary diagnostic checklists and discussed in the context of herbal medicine practice.

## **The herbal war on drugs**

Sally Chick

Windana Drug and Alcohol, Melbourne, Australia

### **Abstract**

The detoxification process from alcohol and cannabis can be both physically uncomfortable and emotionally confronting for individuals. Windana Drug and Alcohol Recovery has been using herbal medicine for over 30 years to assist people through this process, addressing many of the symptoms of detox and helping them continue with their abstinence. Herbal medicines for alcohol and cannabis detox will be discussed as well as important factors in clinical decision-making.

Alcohol and illicit drugs are costing our community both in the short and long term, as it relates to the continuing strain on both health services and law enforcement. By using naturopathic medicines to treat individuals who misuse these substances, we are able to help minimise the long term effects of this behaviour as well as manage some of the chronic conditions that arise out of the abuse of illicit drugs and alcohol. We are able to offer patients more options to help with their withdrawal and long-term management of addiction and subsequently their long-term health.

## **Changing perspectives: GUM microbiome influences pregnancy outcomes and infant health**

Sandy Davidson

Endeavour College of Natural Health, Brisbane, Australia

### **Abstract**

Introduction: The Human Microbiome Project was launched in 2007 to explore the correlation between the microbiome, human health and disease. Since then, approximately 3000 bacterial genes have been identified. Among these discoveries, bacterial cells have been found in the human placenta. It is now thought that the infant

gut is not sterile, is first seeded in utero, and that the mother's microbial populations influences infant health. Moreover, the predominant bacterial cells found in the human placenta originate from the oral cavity and are likely to translocate through haematogenous route.

**Method:** A literature review was conducted to investigate the efficacy of herbal medicines and probiotics specific to anaerobic bacteria implicated in gingivitis and periodontal disease and associated with preterm birth.

**Results:** Results of the literature review found that herbal medicine and probiotics positively influence gum health. In addition, gum health and the microbiome influence pregnancy outcomes and infant health.

**Conclusion:** The association between increased risk of heart disease and periodontal disease has been acknowledged for more than two decades. The recent discovery that the placenta microbiome originates from the oral cavity highlights the importance of gum health from pre-conception through to adulthood, and therapies that prevent and improve gum health hold promise for improved birth outcomes and infant health.

## Review on the immunology patterns in endometriosis and the herbal medicine approach to treatment

Thomas Harris

Study Group, Brisbane, Australia

### Abstract

**Background:** Endometriosis is a heterogenous and oestrogen-dependent inflammatory disease that is characterised by morphological and biologically active endometrium (composed of endometrial-type glandular tissue and stroma) that is present in sites outside of the uterine cavity. The disease is complex in nature with implantation of tissue occurring due to phenomena known as retrograde menstruation. While this is considered central to the pathogenesis of endometriosis, 90% of women that experience this event do not have endometriosis, while the remaining 10% of this population do have endometriosis. The role of the immune system may explain why some women develop endometriosis and why others don't. Alterations in the immune system (increased TNF- $\alpha$ , PGE2 and reduced NK cells) have been proposed to play a key role in the establishment of endometrial implants and sustain its growth and development.

**Herbal medicine approach to treatment:** In order to treat aspects of cellular immunity, it is important to improve relative oestrogen excess, which triggers a pro-inflammatory cascade, and also to regulate immune system abnormalities. With continued unopposed oestrogens, the immune system will not regulate, so this must be a primary treatment aim. Prostaglandin

synthesis must be regulated to ensure normal uterine function, healthy flow of menstruation, and reducing pain experienced. Key herbs that help address inflammation, immune alterations and oestrogen clearance include turmeric, echinacea, green tea, calendula and gotu kola. These herbs have multi-factorial actions that address the underpinning pathology of endometriosis and help rectify and improve reproductive function.

## Current perspectives in complementary health education

Jane Hutchens

Lemongrove Road Holistic Health, Sydney, Australia  
Australian College of Natural Therapies, Sydney, Australia

### Abstract

The health sector is dynamic and demanding of the people and organisations within it, and this is no different for complementary health. The public and other stakeholders are becoming increasingly aware of issues surrounding standards and integration of care and the educational preparation of practitioners.

In July 2014 the Community Services & Health Industry Skills Council announced the removal of advanced diplomas for Western Herbal Medicine, Naturopathy, Nutrition and Homoeopathy, heralding the introduction of the bachelor degree as the new entry-level qualification for these professions.

In light of these changes, this paper reviews the developments, challenges and future prospects for professional education in these disciplines.

## ADHD: a modern epidemic or a symptom of an unsustainable society?

Belinda Robson

Goulds Naturopathica, Horbart, Australia

### Abstract

In urban Australia, children are increasingly indoors, with high demands placed on them to conform and to meet predetermined learning outcomes. Western diets that are low in micro-nutrients, but energy dense and full of food chemicals, become the norm rather occasional treats. Rates of attention deficit hyperactivity disorder (ADHD) diagnosis are increasing, with pressure on parents from schools and teachers to medicate their unruly disruptive children. And medications, while often effective in quietening classroom dynamics, come with undesirable side effects and fail to address the underlying issues.



Causative factors in ADHD are still poorly understood, though it is well documented that genetics and environmental factors influence incidence. What then is the role of the herbalist or naturopath? In what ways can we not only improve classroom behaviours, but also improve social, cognitive, physical and emotional health outcomes for the child? Unsurprisingly, these interventions are also consistent with more sustainable use of resources and healthier ways of living. A thoughtful and ecologically responsible approach to these children can be applied to help maximise their potential, foster life-long sustainable eating practices, and facilitate the growth of active young minds that will soon be the caretakers of our planet.

## Developing research capacity within private herbal and naturopathic medicine education

Amie Steel

Endeavour College of Natural Health, Brisbane, Australia  
Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Sydney, Australia

### Abstract

**Background:** Contemporary higher education institutions are required to show a commitment to scholarship and the advancement of new knowledge through research within their faculty. In fields such as herbal medicine and naturopathy, where training has historically been underpinned by a focus on technical skills, meeting these requirements requires developing research capacity within a faculty that may have highly skilled practitioners and educators, but possibly limited skills in research.

**Methods:** A cross-sectional survey was undertaken involving the faculty (n=389) of a leading complementary medicine higher education provider, which examined attitudes towards research and experience with a range of research activities.

**Results:** The majority of participants (n=202, response rate 51.9%) identified research as being important to their profession (89.5%) and to their personal goals (86.0%), and that it was important to have clinically-trained researchers (83.1%). However, only 16.5% had published in a peer-reviewed journal despite 70% reporting having designed, conducted and completed some original research. Nearly 1 in 5 participants identified having no interest in undertaking a research higher degree.

**Conclusion:** The advancement of new knowledge and the sustainability of the professions of herbal medicine and naturopathy will rely on faculty in academic departments of higher education institutions to

undertake meaningful and relevant research. For this to be achieved, some obstacles towards developing research capacity will need to be overcome. A number of solutions to overcome the difference between interest and capacity will be proposed.

## Clinical supervisor intervention fosters excellence in clinical herbal medicine education

Helene Diezel<sup>1,2</sup> and Amie Steel<sup>1,2</sup>

<sup>1</sup> Endeavour College of Natural Health, Brisbane, Australia

<sup>2</sup> Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Sydney, Australia

### Abstract

Clinical education within herbal medicine (HM) training organisations commonly involves qualified HM practitioners providing supervision to student practitioners. These supervisors are primarily selected based on their clinical and academic, but not necessarily mentoring, experience. The quality of clinical supervisors and the resulting calibre of HM graduates needs to be addressed to sustain the HM profession. To date, systematic implementation of programs to support excellence in clinical supervision to meet increasing demands on HM education and professional environments has been largely overlooked.

This study evaluates the outcomes of a pilot program of an innovative clinical educator's skills development course involving a group of experienced clinical supervisors at a large Australian HM practitioner training college. Focus group data was collected after course completion to examine participant's experiences and analysed using grounded theory.

Participants' feedback described convenient course delivery, authoritative content, onerous assessment and highly usable, practical learning content. Participants also reported generally positive attitudes to clinical supervision and development of its skills related to an improved understanding of clinical supervision practice. Course participants' recommendations included similar supervision skills development programs be made available to all supervisors involved in HM practitioner clinical education.

Clinical supervision is vitally important to herbal medicine practitioner training and the supervisory environment in higher education institutions is complex. There is a need to strengthen the capacity of academics beyond lecturing and higher education to include the specific skills required for excellence in clinical supervision.

## Sustainable collaborative management of patients undergoing AFT/IVF

Rhiannon Hardingham, Charmaine Dennis, Gina Fox, and Tina Jenkins

Fertile Ground Health Group, Melbourne, Australia

### Abstract

Infertility affects one in six Australian couples, and standard medical practice now dictates these couples be referred to a fertility specialist practising at an IVF clinic, often within six months. Alongside this, patients are accessing CAM for fertility support more than ever before. This talk will explore the role for the natural medicine practitioner in this highly medicalised environment, and will illustrate how Fertile Ground Health Group manages successful collaborative practice with Melbourne's largest IVF providers.

Just as in other areas of specialised medicine, patients are commonly uncomfortable discussing their adoption of herbal or nutritional medicine with their doctor, as are doctors in allowing patients to continue using medicines prescribed by a naturopath. To overcome this we use an approach of full disclosure, continually seeking to further our relationships with our patients' doctors and specialists in the aim of benefiting communication, trust, mutual respect and patient clinical outcomes. The naturopaths at Fertile Ground Health Group feel that through this we achieve demystification of our practice for our medical colleagues, and find increasing opportunities for collaborative practice and patient support.

We aim to demonstrate this approach to be integral in the long-term sustainability of the role of naturopathic and herbal practice in the increasingly medicalised field of reproductive medicine.

## Beneficial drug herb interactions in oncology

Jonathan Treasure

Centre for Natural Healing, Ashland, United States

### Abstract

Herb-drug interactions can be positive and beneficial. However, the predominant view of mainstream oncology is that herbal medicines generally cause negative or adverse interactions if co-administered with conventional cancer treatments. This widely held assumption is overstated, often to an extreme degree, even implying that cancer treatment failures are due to use of herbs or supplements. Clinical evidence for adverse interactions is non-existent and extrapolations made from pre-clinical data by physicians lacking experience and knowledge of

botanicals do not bear scrutiny from botanically literate clinicians. Unfortunately, these alarmist concerns are often forcefully communicated to patients who become intimidated about using any botanical and nutritional co-management during their mainstream treatments. Meanwhile, their herbal practitioners are forced into defensive positions, often unable to make use of co-administered botanical strategies that, in fact, can lead to improved outcomes. Herb-drug interactions can be positive and beneficial. This talk will cover different levels, theoretical and ideological, evidential as well as practical and clinical management dimensions of this complex area, with the aim of reversing the dominant view. Examples of co-administration with surgery radiation and chemotherapy to improve treatment outcomes will be surveyed, together with advice on management for herbal clinicians.

## Naturopathy for the management of polycystic ovary syndrome (PCOS): a systematic review of the literature

Susan Arentz,<sup>1</sup> Caroline Smith,<sup>1</sup> and Jason Abbott<sup>1</sup>

<sup>1</sup> National Institute of Complementary Medicine (NICM), University Of Western Sydney, Sydney, Australia

### Abstract

Polycystic ovary syndrome (PCOS) is a complex reproductive endocrinopathy affecting up to one in five reproductive aged women. PCOS is a lifelong condition with serious consequences. Pharmaceutical treatment options are available; however, none address the full scope of this multifactorial condition and women with PCOS have expressed a strong desire for alternatives. Complementary medicines (CMs) are emerging as popular treatments and adjuncts to conventional treatment. The aim of this research was to evaluate the role of one of the CMs, naturopathy, in the management of PCOS.

**Methods:** We systematically searched electronic databases and reference lists for randomised controlled trials for naturopathy (western herbal medicine and nutritional supplements) in PCOS. Trials were selected by three independent authors and assessed for methodological quality including risks for bias and data extraction. Data were entered onto the literature review software RevMan for meta-analyses. Primary outcomes for study inclusion were hyperandrogenism, oligo/amenorrhoea, polycystic ovaries, metabolic hormones (insulin and glucose) and PCOS.

**Results:** Eighteen studies were included. Naturopathic interventions included herbal tea (*Mentha spicata* and *Camellia sinensis*) (n=2); herbal medicine (*Cimicifuga racemosa* and *Cinammomum cassia*) (n=3); vitamin

B1, B6 and B12 (n=1); B8 (inositol) (n=7); omega 3 essential fatty acids (n=3); calcium and vitamin D (n=1); and vitamin D (n=1). Secondary outcomes included anthropometric characteristics, CVD risk factors, inflammation, ovulation and pregnancy rates. Quality of studies was variable. Data analyses continues.

Conclusion: Outcomes of data analyses will be presented.

## **Learning technologies in CAM education: Drilling deeper into the dynamics and changing attitudes of the student body in natural medicine**

Alastair Gray

Endeavour College of Natural Health, Brisbane, Australia

### **Abstract**

**Background:** There are emerging trends in learner attitudes, behaviour and values in relation to technology and learning within the complementary medicine field. No longer do colleges such as Endeavour College have a simple, homogenous student body. Now significant diversities in age, demographic and psychographic are increasingly present. In the last 3 to 5 years new features have emerged, with 'wellness sector', forward looking, proactive learners arriving in the classroom. This paper looks at the sustainability of the profession in the context of changing student priorities.

**Method:** A survey was undertaken annually over 3 years in which all current students at Endeavour College were invited to participate. The Student Technology Survey examined the personal and educational use of technology, confidence and fluency in working with technology as a student, and attitudes and perceptions of technology and other facilities within the college.

**Results:** Responses to the survey over 3 years varied (Year 1 – n=508; Year 2 – n=572; Year 3 – n=576). Rapid rise in the use of tablets (57%) in learning dominates the results and changing behaviours, and the increasing use of social media channels to facilitate student learning communities and accessing study resources. Increasingly, learners (39%) use the learning management system daily.

**Discussion/Conclusion:** Front and centre of this yearly collation of students' attitudes and decisions is the growing use and, in fact, dependence on technologies, from apps to learning management systems, on hardware such as smart phones and tablets. The data points to supporting the clear trends in the university sector worldwide, but also key differences, with some resistances to the use of technologies, due to the unique values, demographics and psychographics of those who attend the college, and highlights urgent infrastructure priorities for CAM education.

## **The dementia epidemic: How to use natural therapies to prevent and reverse neurological degeneration**

Joe Pizzorno

SaluGenecists, Inc. Seattle, Washington, United States

### **Abstract**

While it is true that humans live 25-30 years longer from birth compared to 100 years ago, the increase in longevity from age 65 is only 3-4 years. For those few extra years (in fact for more than those few years), most are incapacitated by limited energy and chronic disease or worse, spent in a nursing home with dementia. Western civilisations are suffering a huge and growing epidemic of dementia. More healthcare dollars are spent treating patients with dementia than cancer or heart disease. In fact, spending on dementia (in 2010 dollars) is expected to triple in the next 4 years.

While the epidemic of dementia is obviously associated with ageing, the primary causes are preventable and often reversible neurological dysfunction and accumulated damage. This presentation covers neurological dysfunction from the perspectives of hypoexcitability, hyperexcitability and degeneration. These dysfunctions are the common causes of such diverse diseases as Alzheimer's disease, amyotrophic lateral sclerosis, autism, cognitive dysfunction, dementia, epilepsy, migraine headache and Parkinson's disease. Of particular importance are restoring and protecting mitochondrial function and preventing and even reversing neurological damage from metabolic and environmental toxins. After this presentation, the attendee will be better able to recognise and diagnose the underlying dysfunction, determine its true cause(s) and develop optimal strategies for reversal.

## **Immediate challenges facing herbal medicine and naturopathy education**

Alastair Gray

Endeavour College of Natural Health, Brisbane, Australia

### **Abstract**

**Background:** Herbal medicine education faces significant challenges. With the global trends and directions of modern tertiary education becoming clearer and with the needs of modern learners being voiced loudly for education, at any time, any place and on any device, are colleges ready to embrace these developments and plan for the future? The changing realities include a growing trend with learners from memory skills to problem solving skills, instruction to support, control of content to self-management and learning skills to

lifelong-learning. Learners now have less time than ever, shorter attention spans, and desire shorter learning snacks rather than large banquets delivered by experts. They demand engagement. They want more practical clinical experience.

Significant questions emerge about the ability of naturopathic colleges to teach this art of information curation, and deal with the move towards online, blended, eLearning and mLearning. Mainstream universities and colleges worldwide are wrestling with how to treat these hurdles, the coming democratisation and the increasing role of the Internet. Herbal medicine providers face the same issues.

Student attitudes to learning, traditional evidence, science, and even attendance are changing, as evidenced by student literacy and technology surveys, amongst other research. This paper highlights the tools and strategies adopted at Endeavour College of Natural Health and the process of embedding educational and eLearning principles, student and staff resistance to change, strategies and techniques employed to gain compliance and enhance academic results and retention.

## Rediscovering motherwort

Greg Whitten<sup>1</sup> and Jason Hawrelak<sup>1, 2, 3</sup>

<sup>1</sup> Goulds Naturopathica, Hobart, Australia

<sup>2</sup> University of Tasmania, Tasmania, Australia

<sup>3</sup> University of Western States, Oregon, United States

### Abstract

Motherwort, *Leonurus cardiaca*, was once highly revered as a nervine and thymoleptic. Its role in contemporary Australian practice does not, however, reflect its past reverence. In this lecture, Greg Whitten (herb grower) and Jason Hawrelak (herbalist) share how an Australian apothecary has discovered it to be a very reliable nervine, working quickly and profoundly in the treatment of depression and anxiety-related conditions, and how it has for a number of years been one of their most prescribed herbs.

They describe how motherwort grows, is harvested, dried and processed, and how the method of processing the herb can have a great influence on the quality and effectiveness of preparations made from it. They also look at the traditional understanding of the herb's actions, and offer an explanation as to why it has fallen into disuse. As motherwort is relatively easy to cultivate, and the quality issues associated with it could be easily overcome, they suggest it is worthy of further exploration.

## Conversations with cancer masterclass

Jonathan Treasure

Centre for Natural Healing, Ashland, United States

### Abstract

Recommended for all clinicians, this will be a masterclass format discussion focusing on support for herbal practitioners who currently work or want to work with cancer patients. I will approach the oncological setting in terms of the cast of players, including cancer itself, the oncologist, the patient, the care-givers etc., and will examine their roles, relationships, and different aspects of character development. Understanding how the language and metaphors of oncology impact on patient experience will be reviewed from the perspective of providing guidance and navigation for patients and practitioners through the multiple levels and complex terrain of cancer management. The premise is not that the herbal practitioner holds the key to cancer treatment, but that working with cancer is the key to transformation of the herbal practitioner; this can be considered authentic "integrative" medicine. Drawing on more than fifteen years clinical experience of working with people with cancer, I will share insights, tips, tricks and traps, as well as discuss questions that do not necessarily have easy answers or obvious herbal prescriptions.

## The role of the herbal medicine practitioner in the prevention and management of cardiovascular disease: an integrative perspective

Brad McEwen

Endeavour College of Natural Health, Brisbane, Australia  
Oral presentation from the 9th International Conference on Herbal Medicine 2015

Sydney, New South Wales, Australia. 20-22 March 2015

### Abstract

Cardiovascular disease (CVD) is the leading cause of morbidity and mortality worldwide. Complementary and alternative medicine (CAM), and in particularly herbal medicines, are increasingly being used by the general population and commonly used in combination with conventional medicines. Studies have suggested that patients with chronic medical conditions use CAM at a higher rate than the general population. This higher rate of CAM use has the potential to lead to an increased risk of interactions with medications used in CVD, such as anticoagulant drugs, antiplatelet medications and statins. A number of herbal medicines have shown efficacy in the management of CVD, including cinnamon, garlic, ginger,



ginkgo, gotu kola, hawthorn, horse chestnut, rosemary and turmeric. These herbal medicines have been utilised in the management of atherosclerosis, hypercholesterolaemia, increased platelet aggregation and activity, hypertension, venous insufficiency and peripheral vascular disease. A deeper understanding of the prevention and management of cardiovascular disease utilising herbal medicines, particularly in patients with co-morbidities such as diabetes, in an integrative medicine method plays a major role in optimising clinical outcomes. This review will equip practitioners with practical applications for the herbal medicine management of cardiovascular disease and consequent comorbidities. In addition, the concurrent use of medications in CVD and potential interactions will be discussed.

## **Creating sustainability in herbal and naturopathic medicine practice through research: the VITAL role of practitioners in driving the research agenda**

Amie Steel

Endeavour College of Natural Health, Brisbane, Australia  
Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Sydney, Australia

### **Abstract**

**Background:** The practice of herbal medicine and naturopathy is steeped in the roots of traditional knowledge and yet it is now practiced in a society that values research evidence above all else. Unfortunately, much of the research available that examines elements of herbal medicine or naturopathy is found to be irrelevant to the realities of clinical practice. This circumstance has created an ongoing tension within those in the profession wishing to embrace the benefits of clinical research without abandoning the insights found from both historical knowledge and personal clinical experience.

**Method:** This presentation will highlight the importance of practitioner involvement in research. An overview of a broad cross-section of research approaches will be discussed with an emphasis on their potential ability to contribute to a better understanding of the practice of herbal medicine and naturopathy. Within each research method discussed, the importance of practitioner insights and perspectives within the design/implementation of a study will be considered. Likewise, the risks to both professions of continued research occurring without practitioner involvement will also be raised. Finally, the diverse ways practitioners can be involved in research projects irrelevant of research background/experience and available time will be outlined.

**Discussion/Conclusion:** Without appropriate practitioner involvement in future research examining herbal medicine and naturopathy, both professions are at risk of having already scarce research dollars expended on projects which do not answer questions of value. This can only be solved by practitioners realising that researchers need herbalists and naturopaths, just as much as, naturopaths and herbalists need researchers.

## **Pulmonary-cardiovascular integration: concepts for clinicians and researchers.**

Michael McMullen

University of Westminster, London, United Kingdom

### **Abstract**

The cardiovascular system is highly flexible and tightly regulated by the autonomic nerve system. Haemodynamic changes result from all body activities leading to limitless cardiovascular equilibriums. Not surprisingly, the extent of a pharmacological intervention such as caffeine, varies according to body activity.

In this interactive workshop it will be demonstrated that, for short-term studies, measurement of anything less than a complete cardiovascular profile is likely to be meaningless/misleading. Examples of recent studies in the field of postprandial haemodynamics will be reviewed and their models and underlying assumptions challenged.

The pulsation of the heart, measured either as heart rate or inter-beat interval, involves two distinct sources of innervation: intrinsic heart contractility and autonomic tonus, both sympathetic and parasympathetic. Heart contractility, measured as  $dP/dt$ , is influenced by intrinsic heart contractility, autonomic tonus (sympathetic only) and the blood flow from the lungs (Frank-Starling mechanism). Stroke volume is influenced by the blood flow from the lungs,  $dP/dt$  and aortic/arterial compliance, all controlled by the sympathetic system. The tonus in the resistance vessels, sympathetically innervated, is measured as total peripheral resistance. Together, all these parameters are centrally controlled to regulate blood pressure. Short-term changes of blood pressure, over several beats, elicit baroreflex responses which modify the autonomic signalling to the heart at the level of the medulla.

Blood volumes entering the heart fluctuate during the breathing cycle, leading to haemodynamic accommodation responses customarily referred to as respiratory sinus arrhythmia or Traube-Hering waves. The resulting variations in inter-beat intervals are the basis of heart rate variability analyses.

## Challenges in herbal medicine clinic research: key issues in curriculum, contemporary herbal medicine clinical practice and professional development

Jillian Dunn,<sup>1</sup> Philip Cottingham,<sup>1,2</sup> Ram Vempati,<sup>1</sup> Jon Adams,<sup>2</sup> and David Sibbritt<sup>2</sup>

<sup>1</sup> Wellpark College of Natural Therapies, Auckland, New Zealand

<sup>2</sup> Australian Research Centre in Complementary and Integrative medicine, University of Technology Sydney, Sydney, Australia

### Abstract

**Background:** Herbalists forging toward statutory regulation are confronted with establishing validity as evidence-based. Herbal medicine curricula worldwide maintain traditional herbal medicine focus while striving to incorporate evidence base. Within this debate a number of significant issues surface in education, practice and professional representation of herbal medicine. The shift from traditional herbal medicine practice to evidence-based practice is dependent on: core curriculum, practitioner research capacity, and professional and political efforts. In this context this session will discuss findings from a cross sectional study on determinants of shift towards evidence-based practice and sustainable clinic-based research.

**Methods:** An on-line cross-sectional survey of 65 items was sent to 1070 CAM practitioners. Both quantitative and open-ended qualitative questions were used. Descriptive, quantitative data and thematic analysis were performed.

**Results:** Thirty percent of the study population responded to the survey (n=320). Of these, 85 were medical herbalists. Most favoured statutory regulation of the profession. Many held a CAM related bachelor degree or higher qualification, although only 56% had sufficient research skills to interpret research and 28% to conduct research. Few utilised quantifiable clinical outcome measures other than blood tests.

**Conclusions:** Despite a significant proportion of herbalists having a bachelor or post-graduate degree, the level of qualification did not influence greater evidence-based practice. This finding has driven curriculum changes, although professional development lags. Development and use of clinical outcome measures, cost and accessibility of databases and professional association efforts are a challenge to use of evidence base and sustainable research outputs from clinical practice.

## WORKSHOPS

Workshops from the 9th International Conference on Herbal Medicine 2015. Sydney, New South Wales, Australia. 20-22 March 2015

### Why doing good is good for business

Clifford Moss and Simon Davies

Good Business matters, Melbourne, Australia

### Abstract

A professional development workshop for business owners, managers and employees, this is a practical, insightful and interactive session, facilitated by co-founders Clifford Moss and Simon Davies. Simple ideas, information and tools to help you build a sustainable and successful business while building trust with your customers by demonstrating ethical and responsible business practices.

Learn how to develop a point of difference and competitive advantage in your industry, while implementing a proven way to attract and retain employees, gaining valuable knowledge and learning new skills that will help your business prosper.

This workshop will cover: setting the scene – understanding the landscape and larger systems to help identify customers and potential employees who share your mindset; the sustainability wave and where your business fits in; case studies of large, medium and small businesses, including examples you can model for yourselves; introduction to the tools available that will simplify the adoption of social responsibility strategies in your business, including working examples; and practical application of tools and strategy setting exercises.

### Building a research culture in Western herbal medicine?

Matthew Leach<sup>1</sup> and Tamara Agnew<sup>2</sup>

<sup>1</sup> School of Nursing and Midwifery, University of South Australia, Adelaide, Australia

<sup>2</sup> Health Economics & Social Policy Group, University of South Australia, Adelaide, Australia

### Abstract

**Background:** Western herbal medicine (WHM) is a relatively new academic discipline that is in the midst of professionalisation. Central to the scientific development of WHM, and its professional advancement, is research. WHM research is not just the responsibility of academic-researchers however, but a mutual obligation of all WHM stakeholders, including practitioners, educators

and industry. But how can a common understanding of research be realised and sustained across the discipline of WHM? The impetus required to make this change may stem from building a research culture in WHM.

**Methods:** This workshop will utilise a combination of didactic instruction and interactive group activities to facilitate critical discussion, debate and understanding of research culture within the context of WHM.

**Results:** Using the methods outlined above, this workshop will seek answers to the following questions: What is research culture? How does the research culture of WHM differ from other health professions? Is there a need to build a research culture in WHM? What is the value/importance of developing a research culture in WHM? And, if considered necessary, how can a research culture in WHM be developed?

**Conclusion:** Building a research culture in WHM may provide the stimulus to expedite the development and improve the sustainability of the WHM profession. However, there has been little debate in WHM and the broader field of complementary medicine about the role or value of research culture in shaping the profession. This workshop presents a significant opportunity to formally discuss and document WHM stakeholders' position on this important issue.

## Developing a relationship with medicinal plants via the brown bottle: a masterclass in organolepsis

Sue Evans<sup>1</sup> and Greg Whitten<sup>2</sup>

<sup>1</sup> Southern Cross University, Lismore, Australia

<sup>2</sup> Goulds Naturopathica, Hobart, Australia

### Abstract

The romantic ideal of a herbalist as one who spends time in nature, tending and harvesting beautiful plants is, for most, a far cry from our daily reality. For us, herbs usually come in dark brown bottles. Further, the *materia medica* used by Western herbalists in Australia relies overwhelmingly on imported species. Few extracts on our dispensary shelves are produced from locally grown material.

The term 'brown bottle herbalist' was coined some years ago to refer to herbalists whose relationship with the plant world does not extend beyond the bottles of extracts, which are combined to form the mix so characteristic of contemporary herbal treatment. Given that these brown bottles are central to clinical practice, what avenues are open to the practitioner who wishes to deepen their understanding of the nature of individual herbs from within the dispensary? What differences do strength and mode of preparation make to the taste and appearance of the herb? How can we use information gained from observing and tasting the contents of the brown bottle,

alongside phytochemical analysis as appropriate, to develop and deepen our understanding of our medicines and thereby to deliver better care to patients?

Bring your palate, your eyes and your nose to this experiential workshop.

## Nutraceutical pharmaceuticals in clinical practice: Sustainable phytomedicine manufacture employing cherries, onions, kale, lettuce, carrot, spearmint and sweet pea

Peter Lewis

Rockhampton Health Options, Rockhampton, Australia

### Abstract

Nutraceutical pharmaceuticals takes a clinical-based approach toward phytomedicine using novel fresh produce with suitable menstruum. This workshop explores the additive association of menstruum agents with nutraceutical agents in naturopathic practice. Menstruum agents explored include: apple cider vinegar, raw honey, distilled water, ethanol, olive oil, vegetable-derived glycerol and rapadura sugar. The nutraceutical agents explored include: *Allium cepa* (onion), *Prunus avium* (cherry), *Brassica oleracea* (kale), *Lactuca sativa* (lettuce), *Daucus carota* (carrot), *Pisum sativum* (sweet pea) and *Mentha viridis* (garden mint).

## How to be a herbalist and still pay the bills: an interactive workshop exploring different ways to sustain a balanced professional life

Gill Stannard,<sup>1</sup> Jenny Adams,<sup>2, 3</sup> Assunta Hunter<sup>4</sup> and Sue Evans<sup>5</sup>

### Affiliations

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### Abstract

How do we think about sustainability in terms of the herbal profession and its future? Is it about the levels of expertise we cultivate in practitioners through education? Or is it about how we teach herbalists to establish a practice and earn a living? Where do values come into this concept of sustainability? But most of all, is it emotionally and

financially possible to sustain a professional herbal life for more than twenty years without burning out?

This unique panel of four herbalists draws on their diverse experiences in clinical practice, education, research, media, traditional medicine, NGO's and the not for profit sector. Each has explored different ways to utilise their herbal education to support themselves and their families, and find ongoing enjoyment in an evolving profession.

In this collaborative session we will use the experience of the panellists as a springboard to discuss with the audience how the herbal profession can be an on-going source of meaningful and satisfying work. It will draw on concrete examples of the practitioners, pathways and possibilities that have been established in the herbal medicine profession in Australia in the past 30 years.

### Getting published: a skills workshop for practitioners who want to share their work with the world

Jane Frawley<sup>1,2</sup> and Amie Steel<sup>1,2</sup>

<sup>1</sup> Endeavour College of Natural Health, Brisbane, Australia

<sup>2</sup> Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), University of Technology Sydney, Sydney, Australia

#### Abstract

Publication in a peer-reviewed journal can be a daunting idea for many practitioners even while they understand the value of research publications for their profession. Practitioners who do embrace the challenges associated with peer-review article writing and submission, may be discouraged by the peer-review process itself. This workshop is designed to help practitioners develop the skills needed to successfully write manuscripts that are meaningful and relevant to the practitioner and research audiences and then get them published.

The workshop will overview: the style, tone and structure needed for writing research for publication (as different from other forms of academic writing); successfully telling the story in the findings; the art of choosing the right journal; writing a cover letter; responding to reviewers' comments; and dealing with rejection. A variety of manuscript types will be discussed including commentary, letter to the editor, literature review, original research, and case study/case series.

Drawing on their extensive experience writing, reviewing and editing manuscripts for publication in peer-reviewed journals, the presenters will facilitate an interactive symposium. The presenters will provide new authors with a pathway to help them navigate the peer-reviewed publication process and communicate their insights, clinical experience and research findings with national and international audiences.

## POSTER PRESENTATIONS

Poster presentations from the 9th International Conference on Herbal Medicine 2015. Sydney, New South Wales, Australia. 20-22 March 2015

### **Rosella - *Hibiscus sabdariffa*: A review of clinical application. Rosella is an underutilized herbal medicine in contemporary Australian practice.**

Rebecca Walton

Goulds Naturopathica, Hobart, Australia

#### Abstract

Rosella – *Hibiscus sabdariffa* – is an underutilised herbal medicine in contemporary Australian practice. It is a well-tolerated, pleasant tasting and inexpensive treatment for a variety of increasingly common health conditions, such as hyperlipidaemia, hypertension, oxidative stress and potentially fatty liver disease. This herb is a fast growing shrub suited to dry, subtropical growing conditions compatible with the northern Australian climate. It is a sustainable choice for practitioners, and may provide an avenue to incorporate local Australian growers and the option to support fair trade and organic practices abroad. Rosella is a commonly used herb throughout the world and is perfectly indicated in chronic conditions as it lends itself well as a food medicine that can be integrated into long term treatment. It has multiple potential therapeutic applications and has been quietly gathering an underpinning of evidence to support its traditional use.

### **Integrating herbal extracts and stem cell therapy for complex neuropathic pain**

E. Russell Vickers

Sydney Oral and Maxillofacial Surgery, Sydney, Australia

#### Abstract

Introduction: Stem cell therapy is a revolutionary approach to complex medical problems. New research shows the stem cell stromal vascular fraction (SVF) has an important function in regeneration – an environment where small molecules from herbal derivatives may play a critical role. A clinical example of this approach is presented.

Methods: A 27 year old female with a diagnosis of intractable trigeminal autonomic cephalalgia was referred for treatment. She had a pain score of 7/10



(0=no pain, 10=worst pain imaginable). The pain was 6 years duration, constant and all day, with additional sharp neuralgic pain. Sleep pattern was only 2 hrs per night and pain increased during her period. Current medication requirements to control pain were high doses (3200mg daily) of the anticonvulsant drug gabapentin.

**Results:** A combined approach of herbal FE 1:1 of yarrow and pasque flower, with autologous stem cell therapy resulted in a dramatic reduction in neuropathic pain, reduction in medication and excellent improvement in widespread autonomic dysfunction of the extremities. Sleep pattern was returned to 6 hrs. Stem cells were derived from lumbar adipose tissue (127 gms) with flow cytometry showing 603,000 SVF cells/gm with a total 77 million cells injected into the trigeminal nerve.

**Conclusion:** The integrative approach of using herbal medicines with autologous single stage stem cell administration resulted in an outstanding improvement in a patient that was deemed a 'hopeless case' from standard drug therapy. In addition, significant improvements were observed in facial cosmetic deformities from previous medical procedures.



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### Australian Grown and Certified Organic

The Pharmaceutical Plant Company (PPC) has recently sourced an extensive range of over 60 Tasmanian grown, Australian Certified Organic (ACO), Fresh Plant Tinctures (FPTs) to complement our long established range of dry plant herbal extracts.

Grown, harvested and processed in pristine Tasmania on an Australian Certified Organic Farm with a TGA licence, these FPTs are now available to Practitioners through PPC.

PPC has always been a leader in sourcing organic herbs for our extensive range of dry plant herbal extracts. Now we have extended our range with fresh plant herbal tinctures, offering FULLY certified organic extracts that are locally grown in Australia.

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