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ATMS Survey: Reinstatement of health fund rebates
Spotlight on Vitamin B6
The critical role of sleep in optimising health
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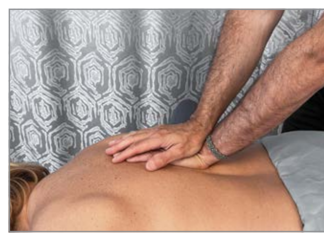

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# President's *Report*

**Rebecca Lang** | ATMS President

The past few months have been an inspiring and productive time for ATMS. It has been a privilege to travel around the country with our CEO, Annie Gibbins, and fellow Board Directors to connect directly with you at our Business Success Weekends. In Perth we were joined by Vice President Chantel Ryan, and in Melbourne and Adelaide by Director Geraldine Headley. Each weekend brought together students, members, and non-members in a vibrant and supportive space. The energy was uplifting, the conversations were meaningful, and the feedback has been overwhelmingly positive. Our next Business Success weekend is in Brisbane on October 25 and 26 where we will be joined by Treasurer Cass Henry and Vice President Donna Eddy. These events are not only about business growth, they are about connection, inspiration, and celebrating the incredible work you do every day.

We also visited several colleges during these trips, meeting with students and hearing first-hand about their experiences and aspirations. These conversations are invaluable. They give us insight into the needs of the next generation of practitioners while allowing us to share encouragement and practical support as they prepare to enter the profession. I left each visit feeling deeply inspired by the passion and commitment of our future colleagues.

On a broader business note, Annie and I recently attended the COSBOA (Council of Small Business Organisations Australia) Small Business Summit in Melbourne. This summit highlighted the challenges and opportunities facing small business owners across the nation, many of which directly affect our members. From workforce participation and training to regulatory reform, digital tools, and the economic outlook, the discussions reinforced just how important our advocacy role is in ensuring that natural medicine practitioners are recognised and supported as small business professionals. The insights we gained will strengthen our ongoing conversations with government and industry partners.

Our advocacy work also continues with the Health Minister and the NDIS. We are committed to ensuring that remedial massage remains recognised as an essential therapeutic service for people living with a disability. With continuous letters showing the scientific evidence required, we will not be giving up on this issue. A significant development is the recent approval for Professor Sandra Grace to oversee the development of a systematic review of the effectiveness of massage for those eligible for the NDIS—research that will add robust evidence to support our case for the inclusion of remedial massage therapists under the NDIS. This will be an invaluable resource for future advocacy and recognition.

In parallel, Annie recently ran a survey gathering member input on health fund rebates, the results of which are included on pages 131-137. Your feedback plays a critical role in how we present our case to health funds, and we will continue to push strongly for expanded access to rebates for clients seeking natural medicine services.

Our Meet the President webinars have also become a vital platform for dialogue, with hundreds of members joining each session. I genuinely value the opportunity to hear your concerns, answer questions, and explore ideas together. These sessions remind me that ATMS is strongest when we stay connected and responsive to the needs of our community. Please join us at the next webinar on Monday 15th September at 12 noon.

Another area of focus by Annie and the Directors has been the development of White Papers and practical resources. The first of these documents is available to all members on the ATMS website and is included in this journal on page 172, offering evidence-based insights and guidance you can refer to in practice and advocacy. I am especially proud of the resources we are finalising around Mental Health, Suicide Prevention Awareness, Domestic Violence Support, Financial Counselling, and Cultural Awareness. These will provide critical support for you, your clients, and your businesses, and will be regularly updated to ensure relevance.

This work reflects my personal passion for mental health and neuroscience, an area I am continuing to study at a postgraduate level. I firmly believe that by equipping practitioners with the right tools, we can extend our reach and provide meaningful support to the public at a time when it is desperately needed.

Looking ahead, our Academic & Research Committee and Marketing Committee have finalised the 2026 Symposium topics and CPE calendar. Having this in place well in advance ensures that members can plan their learning journey for the year ahead. At the time of writing, we are also preparing for our Healthy Brain Symposium on 30 August, with over 250 delegates attending in person and a few hundred more streaming online. With an outstanding line-up of speakers, it promises to be one of the highlights of our professional year.

And of course, we are also preparing for our premier annual event – **The Winning Edge: Future Proof Your Career**, to be held in Sydney on Saturday 8 November 2025, alongside our AGM. This one-day conference will bring together leading experts to share insights into the future of healthcare, research, technology, and practice success. With dedicated Business and Scientific streams, it offers a unique opportunity to tailor your learning experience. Whether you want to strengthen your clinical expertise, integrate new technologies, or scale your business with confidence, this conference is designed to equip you with the strategies and inspiration you need. We will finish the day with our Gala Dinner – Gatsby Style – a celebration of our profession, our community, and the announcement of this year's ATMS Natural Medicine Awards. It is always a wonderful evening of connection and recognition.

To all of you – thank you for your passion, your professionalism, and your unwavering commitment to helping others. It is a privilege to represent you, and I look forward to connecting again soon.

**Rebecca Lang**
*President*

The Australian Traditional-Medicine Society Limited (ATMS) was incorporated in 1984 as a company limited by guarantee ABN 46 002 844 233.

**ATMS HAS FIVE CATEGORIES OF MEMBERSHIP**

Accredited member
Associate member
Student member (free)
Fellow
Life member

**MEMBERSHIP AND GENERAL ENQUIRIES**

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Phillip Turner - bestowed 16/06/1995
Nancy Evelyn - bestowed 20/09/1997
Leonie Cains - bestowed 20/09/1997
Sandi Rogers - bestowed 09/04/1999
Maggie Sands - bestowed 09/04/1999
Freida Bielik - bestowed 09/04/1999
Marie Fawcett - bestowed 09/04/1999
Roma Turner - bestowed 18/09/1999
Bill Pearson - bestowed 07/08/2009
Sandra Grace - bestowed 18/11/2018
Denis Stewart - bestowed 18/11/2019
Christine Pope - bestowed 10/11/2024
Peter Berryman - bestowed 10/11/2024

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Dorothy Hall - inducted 17/09/2011
Marcus Blackmore - inducted 17/09/2011
Peter Derig - inducted 17/09/2011
Denis Stewart - inducted 23/09/2012
Garnet Skinner - inducted 22/09/2013
Simon Schot - inducted 10/12/2015

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# CEO's *Report*

**Annie Gibbins** | ATMS CEO

Dear Members,

The past few months have been an inspiring season of progress for ATMS. From advancing advocacy and connecting with practitioners at our Business Success Weekends to preparing the launch of our new digital platforms, we continue to deliver outcomes that matter. Most importantly, our membership community is growing, thriving, and showing incredible resilience as we move forward together.

### Advocacy and Health Fund Engagement

We have continued our efforts with health funds to reinstate rebates for four natural medicine modalities. A special thanks to members who provided feedback and survey input, your contributions are central to strengthening our case and can be viewed in this journal.

At the same time, we are constantly writing to the NDIS demanding the reinstatement of traditional natural medicine services. These therapies are vital to improving health, wellbeing, and quality of life for people with disability, and we will not give up until they are recognised. Our persistence is backed by research partnerships and member insight, which strengthen the case we continue to present.

### Championing Cyber Security Leadership

ATMS remains at the forefront in small business cyber security. At the COSBOA Small Business Summit in Melbourne, I spoke about how ATMS has become a national benchmark, with more than 1,200 members now completing the Cyber Wardens program. This demonstrates our commitment to safeguarding practitioners and clients alike while reinforcing sector professionalism.

### Member Engagement, Biz Club, and Events

Our Business Success Weekends in Adelaide and Melbourne drew great energy and connection. The President Rebecca Lang and I were inspired hearing your stories and insights about practice growth. It is also exciting that many participants have since enrolled in our ATMS Biz Club, translating the momentum of these events into deeper professional development.

Next up is our Business Success Weekend in Brisbane, one more opportunity to gather, learn, and connect.

### Membership Growth and Enhancements

Membership growth has been one of our biggest highlights. Thanks to automation, system enhancements, and the dedicated work of our team, renewals were smoother than ever and produced outstanding results:

- 1,729 members upgraded to Fellows, a significant milestone for our profession.
- 705 members opted in for the hard copy of the journal, creating a valuable new revenue stream where it was once provided free.
- 159 student members upgraded to accredited membership, a direct outcome of the free student program, and the value they receive.

Our digital transformation has also delivered practical improvements for members. The new portal now allows you to add qualifications and post-nominals, enhancing your professional profile via Find a Practitioner on our website. Registered members can also upload AHPRA certificates directly, reducing manual processing for the team and creating a faster, more seamless member experience.

*Membership growth has been one of our biggest highlights. Thanks to automation, system enhancements, and the dedicated work of our team, renewals were smoother than ever and produced outstanding results.*

### Awards, Galas, and Conferences

I am delighted to share that nominations are now open for the ATMS Natural Medicine Awards, running until 19 September 2025. This is your chance to shine, whether as a practitioner, student, clinic, or educator. Entries close soon, so please step forward or champion someone deserving.

Also on the calendar is our Annual Conference & AGM on Saturday 8 November 2025, themed The Winning Edge: Future Proofing Your Career. Tickets are available now for the Gala Dinner, with dinner, dancing, and the Awards ceremony all part of the celebration.

### Digital Offerings and Member Visibility

The countdown is on for our Healthy Brain Symposium in Sydney, which promises to be one of the highlights of the year. This event will also see the launch of our new website and dedicated events app, designed to make it easier for you to access information, connect with peers, and engage with ATMS in new ways.

Our team and directors will be on hand throughout the symposium to meet with you, listen to your ideas, and support your professional journey. This is more than a digital upgrade, it is a new chapter in how ATMS connects, communicates, and creates value for its members.

### Looking Ahead

As we move toward the end of the year, ATMS remains committed to delivering outcomes that matter: further recognition for natural medicine, meaningful educational and business opportunities, and consistent advocacy for equitable access. Thank you for your engagement, each conversation, piece of feedback, and show of support amplifies our collective voice.

Together, we are shaping a future where natural medicine is recognised, respected, and accessible to all Australians.

To your success,

**Annie Gibbins**
*CEO, Australian Traditional Medicine Society*


# DetoxClear

DetoxClear is a herbal and nutritional formula that helps support natural body detoxification. TrueBroc® broccoli seed extract and organic chlorella are involved in supporting liver function and detoxification. DetoxClear also contains milk thistle which is traditionally used in Western herbal medicine to protect the liver and enhance bile secretion. The nutritional ingredients also help support healthy immune system function and act as antioxidants to help reduce free radical damage to body cells and support tissue repair.

## Product Overview

- Highly concentrated powder with herbs and nutrients that help support liver detoxification.
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# ~ Vale ~
# Dr Sandi Rogers

It is with deep sadness that we acknowledge the passing of Dr Sandi Rogers on 15 July 2025, a pioneering leader, dedicated educator, and esteemed natural medicine practitioner.

Sandi served on the ATMS Board for over 20 years, including from 1994 to 2001 as President. Her leadership played a pivotal role in advancing the Society and the natural medicine profession during times of great change. She was known for her strength, innovation, and unwavering commitment to improving education and recognition for practitioners across the sector.

A passionate advocate for complementary health, Sandi was deeply committed to her patients and students. She developed and delivered numerous training programs in natural medicine and her work as an educator, public speaker, and writer leaves a lasting mark on the profession.

Professor Sandra Grace, current ATMS Board Member, reflected:

*"I was saddened to hear of the passing of Dr Sandi Rogers, an outstanding leader, educator, and practitioner of natural medicine. I was fortunate to serve with her on the ATMS Board and under her leadership during her term as President from 1994 to 2001. I always admired the strength of her convictions and her capacity for innovation. She championed many initiatives, including collaborations with other professional associations and establishing reflexology as an accredited modality of ATMS. I remember Sandi as an energetic and dynamic presenter, much loved by her audiences and her students. Her academic record was very impressive: she was completing her Doctorate in Education and Training during her time on the Board, and we often shared thoughts on the future direction of education for natural medicine practitioners. She leaves a substantial legacy to natural medicine and its practitioners."*

We also acknowledge the tribute shared by Maggie Sands Previous ATMS Board Director and President, who worked closely with Sandi for 15 years:

*"Sandi gave a great deal of herself personally to so many. She was deeply dedicated, resilient, and determined to advance the field of complementary health. May she now rest in peace knowing she gave her utmost."*

On behalf of the ATMS Board and our entire community, we extend our deepest condolences to Sandi's family, friends, students, and colleagues.

She will be remembered with immense respect, gratitude, and admiration.

**The Board and Team at ATMS**

## Tribute to Dr. Sandi Rogers

With great respect, I write this tribute to our past President, Dr Sandi Rogers.

Sandi joined the Board of ATMS as a Director in 1990, a day I remember vividly. From the moment she joined, she brought with her a wealth of knowledge and experience from her work in other industries. Her insight, professionalism, and unwavering commitment helped elevate both ATMS and the Board to new heights.

Her list of accomplishments was extraordinary. Sandi held the following qualifications: Advanced Techniques in Reflexognosy, Diploma of Dietetics and Nutrition, Diploma of Iridology, Diploma of Naturopathy, Diploma of Medical Herbalism, and a Diploma of Education and Training. She also earned a Master in Education and Training and a Doctor in Education from Victoria University for her research regarding natural medicine.

Sandi, along with myself and Frieda Bielik, founder of ACNT, was bestowed Life Membership to the Society in 1999. This honour reflected her exceptional service, dedication, and lasting impact on our profession.

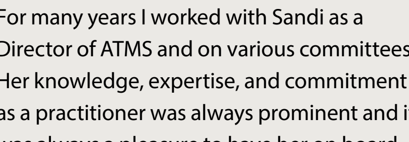
In addition to her leadership within ATMS, Sandi was the founder of the National College of Traditional Medicine, author of many wellness and health-oriented books, creator of the Diploma of Reflexognosy, and founder of Myofunctional Equine and Canine Therapy. Sandi served on numerous ATMS committees, including the Executive Management Committee, the Regulation Committee, the Academic Review Committee, the Complaints Committee. She represented ATMS nationally and internationally during a trip to China and never hesitated to offer her time when it was needed.

Sandi was also a gifted communicator. She spoke at conferences, delivered courses to countless students, and reached even wider audiences through her own podcasts. At one time, she hosted her own television program dedicated to natural medicine and nutritious living, sharing her passion and expertise with the public.

Beyond her professional achievements, Sandi will be remembered for her warmth, generosity, and unwavering support for those around her. She inspired confidence, encouraged others to reach their potential, and approached every challenge with compassion and grace. Her legacy is not only in the work she accomplished, but in the countless lives she enriched along the way.

It has been a privilege knowing and working with Sandi, and I take this opportunity to offer my sincere condolences on her passing to Ronny, her beloved partner of many years, and Sandi's family, and to wish them all the very best for the future.

**Maggie Sands**
ATMS Life Member No. 28



For many years I worked with Sandi as a Director of ATMS and on various committees. Her knowledge, expertise, and commitment as a practitioner was always prominent and it was always a pleasure to have her on board. Great to have known her. Deeply missed.

**Bill Pearson**
Life Member and Former President

It is with deep sadness and profound respect that I write this in honour of the life of Sandi Rogers, a true force of nature whose passion, vision, and dedication transformed the landscape of natural therapies in Australia.

Sandi's remarkable career spanned decades, and her influence reached far beyond the clinic room. As a Medical Herbalist, Naturopath, Reflexologist, Lecturer, Massage Therapist, and the Founder of the National College, she dedicated herself to uplifting the natural therapies industry. She was a fierce advocate, tirelessly working to gather support and credibility for complementary health practices. With her sharp legal mind and gift for language, Sandi could formulate and deliver powerful statements that championed her beliefs and defended her profession with both intellect and conviction.

Her leadership shone brightly during her tenure as a board member for many years and as Director of the Australian Traditional-Medicine Society (ATMS). She was never afraid to speak her mind, and her cheeky, fearless remarks in board meetings often raised eyebrows and sometimes drew laughter loud enough to fill the room. One fond memory was an evening after an ATMS board meeting when Sandi introduced me to her famous drink, "The Rogers" a refreshing blend of crushed ginger and lime that was pure Sandi: vibrant, energising, and impossible to forget.

Sandi was not only a respected leader and practitioner but also a fiercely loyal friend. Her unwavering support and genuine care for those she loved were constants in a life filled with service to others. She shared her journey with her beloved Ronnie, her patients, her colleagues, and the countless students she inspired.

Those of us fortunate enough to have known Sandi will remember her not just for her achievements but for her generosity of spirit, her sparkling wit, and her unshakeable dedication to the values she held dear. Even though she has left this plane, she will certainly continue to be a force, her influence, her lessons, and her laughter resonating in the hearts of all who knew her.

Rest peacefully, dear Sandi. Your legacy lives on in every life you touched.

**Associate Professor Teresa Mitchell-Paterson**
Fellow ATMS

*"My destiny, my legacy, is always being there to help. Doesn't sound flush but that's what I feel I'm about."*

## Message From Sandi Rogers

29 December 1949 – 14 July 2025

Once when asked what her legacy was, Sandi's initial reaction was she hadn't thought about it. "That was for famous people, for celebrities," she replied. Doing a little research on what the word legacy actually meant, Sandi paused to reflect on the subject. The reading of her thoughts in this regard were the closing remarks at the Celebration of Life for her held on 17th of August 2025.

"My destiny, my legacy, is always being there to help. Doesn't sound flush but that's what I feel I'm about." Sandi closed with, a challenge, "What is your legacy? If you do not have one or have not thought about it, now is the time to do so. Then you can constructively spend time developing it."

**Christine Issel**
Author, editor, international lecturer, conference organizer and certified Reflexologist, California, USA

# ATMS Survey: *Perspectives on the reinstatement of health fund rebates for naturopathy and Western Herbal Medicine*

A national online survey of accredited members

**Annie Gibbins** | CEO ATMS
**Professor Sandra Grace** | Director ATMS Board

## Introduction

The Natural Therapies Review Expert Advisory Panel (NTREAP) review was commissioned by the Australian Government in 2019 to assess the clinical effectiveness of 16 natural therapies that had been previously excluded from private health fund rebates.(1) The review aimed to inform the government on whether these therapies were supported by credible evidence of clinical effectiveness. The review involved a series of evidence evaluations of each therapy and included stakeholder input through public submissions and webinars. The NTREAP recommendations were submitted to the Health Minister, the Honourable Mark Butler, who subsequently approved the recommendations.

On 1 July 2025, the Australian Government officially reinstated seven natural therapies as eligible for private health insurance rebates, following amendments to the Private Health Insurance legislation.(2) The seven therapies now eligible for inclusion in private health cover are: Alexander Technique, Naturopathy, Pilates, Shiatsu, Tai Chi, Western Herbalism and Yoga. This landmark change follows years of collective advocacy and the findings of the NTREAP, led by Professor Michael Kidd, confirming the clinical benefits of these therapies.

Although these therapies are now eligible for private health insurance rebates, it remains up to each private health insurer to determine whether they will offer cover, when that coverage will start, what level of benefits will apply and what practitioner qualifications and item codes will be required.

Private Healthcare Australia (PHA) is the peak representative body of the private health insurance industry in Australia.(3) ATMS is actively engaged with the PHA Natural Therapies Working Group and leading insurers to shape these next steps and advocate on behalf of its members. However, the current views of ATMS accredited naturopaths and Western herbal medicine practitioners on the reinstatement of private health fund rebates is currently unknown. The aim of this study was to inform ATMS' advocacy efforts during current health fund consultations on item code development and to support the development of practical and equitable funding models for natural therapies.

## Methods

The CEO, Annie Gibbins, developed an online survey using the Survey Monkey platform to collect information requested by the PHA group. The survey was piloted by the ATMS Executive Committee and their feedback was incorporated. The final survey, comprising 18 closed questions and 3 open-ended questions, took 3-5 minutes to complete.

### *Recruitment*

Invitations to participate in the online survey were distributed to ATMS members via a link during a members' Webinar on 4 July (see Figure 1). The webinar outlined what the recent private health insurance amendment legislation meant for members' practices, ATMS' activities on their behalf to lead this next phase, and how members could help shape the future of health fund rebates for natural medicine. Invitations to the survey were also sent via Wise-n-Well, ATMS's monthly online newsletter, on 23 July 2025. The survey was open from 4 July 2025 to 14 August 2025.

ATMS is gathering member feedback to better understand your needs, challenges, and priorities as a natural medicine practitioner.

Have your say in the Natural Therapies Practice Insights & Item Codes Member Feedback Survey.

**Figure 1.** Live Webinar with ATMS CEO Annie Gibbins. Friday, 4 July 12pm AEST

### *Statistical analysis*

Descriptive statistics were used to analyse the data, following data cleaning. Simple tables and graphs were produced for each closed question. All percentages were reported using valid percentages, which excluded missing data. Open-ended questions were analysed by categorising unstructured text into meaningful topics, ideas or recurring patters. Through a process of repeatedly going back to the unstructured text and refining, coalescing and discarding topics, ideas and recurring patterns, final themes were identified.

## Results

A total of 236 responses were received, representing 2.6% of ATMS' Accredited Members and Fellows.

**Table 1.** Primary practice modality

| PRIMARY PRACTICE MODALITY | FREQUENCY % (N) |
|---|---|
| Acupuncture | 4.7 (11) |
| Aromatherapy | 3.0 (7) |
| Ayurvedic Medicine | 0.4 (1) |
| Bowen Therapy | 1.7 (4) |
| Chinese Herbal Medicine | 1.7 (4) |
| Chinese Massage | 1.3 (3) |
| Counselling | 4.7 (11) |
| Herbal Medicine | 22.9 (54) |
| Homeopathy | 9.8 (23) |
| Hypnotherapy | 0.9 (2) |
| Kinesiology | 3.0 (7) |
| Naturopathy | 60.2 (142) |
| Nutrition | 18.6 (44) |
| Osteopathy | 0.4 (1) |
| Reflexology | 3.4 (8) |
| Massage Therapy | 10.2 (24) |
| Remedial Massage | 33.5 (79) |
| Shiatsu | 1.3 (3) |
| Other | 9.2 (22) |
| TOTAL | 100 (236) |

## Practitioner profile

All respondents provided their main practice modality: 60.2% (n=142) reported naturopathy, 33.5% (n=79) reported remedial massage therapy, 22.9% (n=54) reported herbal medicine and 18.6% (n=44) reported nutrition. All reported modalities are presented in Table 1.

A total of 68% (n=159) of respondents reported having more than one qualification. Of those, 21.3% (n=34) reported have a second qualification in natural medicine; 0.2% (n=3) reporting having a non-natural medicine qualification (psychotherapy, pharmacy, midwifery and general nursing); and 73% (116) reported having more than one other natural medicine qualification. Six responses were invalid.

The majority of respondents (77.5%, n=183) described their typical practice setting as sole practitioner. This was followed by multi-disciplinary clinic (22.9%, n=54) and online/telehealth (21.2%, n=50). Other practice settings included mobile visits and coaching platforms (see Table 2.).

**Table 2.** Practice settings

| PRACTICE SETTING | FREQUENCY % (N) |
|---|---|
| Sole practitioner | 77.5 (183) |
| Multidisciplinary clinic | 22.9 (54) |
| Mobile/Home visits | 8.1 (19) |
| Online/Telehealth | 21.2 (50) |
| Educational or online coaching platform | 3.4 (8) |
| TOTAL | 100 (236) |

Almost two thirds of respondents (61.3%, n=144) practised in metropolitan areas, 40.9% (n=96) practised in regional areas and 3% (n=7) described their practice location as remote.

Almost half of respondents (49.2%, n=116) had been in practice for 21 years of more, 17.8% (n=42) for 0-5years, 20.3% (n=48) for 11-20 years and 12.7% (n=30) for 6-10 years (see Table 3).

**Table 3.** Years in Clinical Practice

| YEARS IN CLINICAL PRACTICE | FREQUENCY % (N) |
|---|---|
| 0–5 years | 17.8 (42) |
| 6–10 years | 12.7 (30) |
| 11–20 years | 20.3 (48) |
| 21+ years | 49.2 (116) |
| TOTAL | 100 (236) |

A total of 50.6% (n=119) of respondents were registered with health funds and another 25.5% (n=60) had previously been registered. See Table 4.

**Table 4.** Registered with health funds

| REGISTERED WITH HEALTH FUNDS | FREQUENCY % (N) |
|---|---|
| Yes | 50.6 (119) |
| No | 17.5 (41) |
| Previously, but currently inactive | 25.5 (60) |
| Not applicable to my modality | 6.4 (15) |
| TOTAL | 100 (235) |

## Billing and Consultation Practices

More than half of respondents (55.5%, n=131) described billing according to the type of consultation, that is, initial or subsequent consultation. Almost a third (31.4%, n=74) billed according to consultation time (e.g. 30 minutes or 60 minutes). Only 4.7% (n=11) billed by bundled services (e.g. consultation + product/program). The remaining 8.05%

(n=19) used mixtures of the above billing approaches, sometimes depending on modality (e.g. naturopathy or massage therapy). A total of 235 valid responses were received. See Figure 2.

The average initial consultation time was reported as 62 minutes and the average subsequent consultation time was 38 minutes.

Respondents described a broad range of services they provided as part of their clinical practices: 76.1% (n=169) reported providing in-person clinic care, 63% (n=140) reported providing telehealth, and 58.1% (n=129) reported dispensing natural products or medicaments. Just over a quarter (27.9%, n=62) provided structured wellness or treatment programs. A similar number (25.2%, n=56) reported providing home-based visits and 14.4% (n=32) reported providing group classes, including education and rehabilitation) (see Table 5).

**Table 5.** Service delivery

| SERVICES PROVIDED | FREQUENCY % (N) |
|---|---|
| In-person clinic care | 76.1 (169) |
| Telehealth | 63.1 (140) |
| Home-based visits | 25.2 (56) |
| Group classes (e.g. education, stretching, rehabilitation) | 14.4 (32) |
| Dispensing natural products or medicaments | 58.1 (129) |
| Structured wellness or treatment programs | 27.9 (62) |
| TOTAL | 100 (222) |

Only 19.9% (n=47) of respondents reported using electronic claiming systems (e.g. HICAPS or HealthPoint) and 23.7% (n=56) reported their willingness to adopt one. A total of 236 respondents answered this question.

The most commonly reported basis for price setting was qualifications and experience, reported by 60.4% (n=142) respondents. This was followed by session duration and complexity (47.2%, n=111)

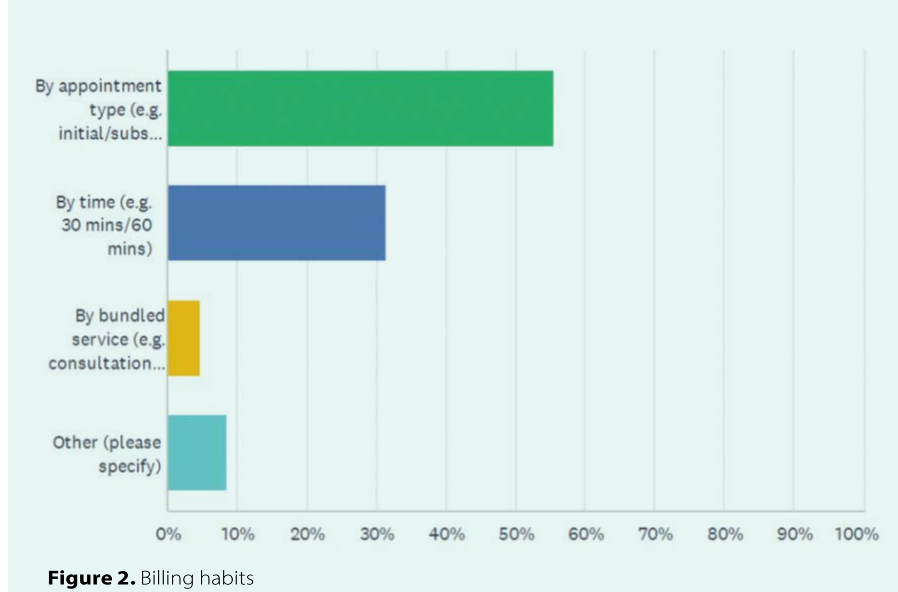



**Figure 2.** Billing habits

and setting own rates (44.3%, n=104). Location and client demographics were also factors for 37.5% (n=88). Modality standards (23.4%, n=55) and business overheads were reported by 23% (n=54) (see Table 6)

**Table 6.** Basis for price setting

| BASIS FOR PRICE SETTING | FREQUENCY % (N) |
|---|---|
| Qualifications and Experience | 60.4 (142) |
| Location and Client Demographics | 37.5 (88) |
| Session Duration and Complexity | 47.2 (111) |
| Modality Standards | 23.4 (55) |
| Business Overheads | 23.0 (54) |
| Benchmarking and Fee Research | 10.6 (25) |
| Value-Add Services | 6.4 (15) |
| Discounts or Packages | 12.8 (30) |
| Set own rates | 44.3 (104) |
| TOTAL | 100 (235) |

## Health fund item code schedules

Respondents were asked how they would prefer to have their health fund items to be structured. A total of 42.6% (n=100) preferred a structure based on appointment type; 22.1% (n=52) preferred a structure based on type of service, 20.4% (n=48) preferred time-based item codes and 14.9% (n=35) were unsure. The total number of respondents was 235.

Most respondents (72.1%, n=168) wanted item codes to be simple and flexible. Only 6.4% (n=15) wanted them to be detailed and specific and 21.5% (n=50) wanted a mix of simple and flexible and detailed and specific item codes.

Respondents were asked whether GP referrals should be required for clients to claim rebates. A total of 86.4% (n=203) did not think they should be required. Reasons cited included: GPs may not be willing to refer to natural medicine practitioners, the waste of time for time-poor GPs, the inconvenience and expense for clients, and the potential disempowerment of both clients and natural medicine practitioners. Only 3% (n=7) thought GP referrals should be required, and 10.6% (n=25) said it depended on circumstances. For example, one respondent spoke of NDIS support for her clients with Alzheimer's disease. They thought that a GP referral might facilitate this support. Another thought that GP referral would enhance the status of natural medicine practitioners and promote integrated health care.

Respondents were asked to name the three top conditions or issues that their clients sought their help with. Three conditions dominated making up 45.4% of responses: women's health/fertility/hormone balancing (16.3%, n=98), gut health/digestion (14.8%, n=89) and mental health, stress, anxiety, depression (14.3%, n=86). A full list of the top conditions reported is presented in Table 7.

**Table 7.** Most common client conditions/issues

| CONDITIONS/ISSUES | FREQUENCY % (N) |
|---|---|
| Women's health/fertility/hormone balancing | 16.3 (98) |
| Gut health/digestion | 14.8 (89) |
| Mental health/stress/anxiety/depression | 14.3 (86) |
| Musculoskeletal health/muscle and joint pain/mobility | 8.3 (50) |
| Pain | 6.8 (41) |
| Fatigue | 6.3 (38) |
| Immune health and autoimmune conditions | 5.3 (32) |
| Health maintenance/promotion/ preventative health care | 4.2 (25) |
| Weight management | 4.2 (25) |
| Chronic health conditions | 3.5 (21) |
| Sleep health | 3.3 (20) |
| Paediatric health | 1.7 (10) |
| Healthy ageing, including cognitive health | 1.3 (8) |
| Skin health | 1.2 (7) |
| Inflammation | 1.2 (7) |
| Cardiovascular health | 1.2 (7) |
| Allergies/food sensitivities | 1.0 (6) |
| Thyroid | 0.8 (5) |
| Pregnancy/childbirth/post-partum health | 0.7 (4) |
| Endocrine health | 0.7 (4) |
| Migraine/headache | 0.5 (3) |
| Lymphoedema | 0.5 (3) |
| Acute conditions | 0.3 (2) |
| Cancer-related | 0.3 (2) |
| Circulation | 0.3 (2) |
| Metaphysical/energetic | 0.3 (2) |
| Asthma | 0.2 (1) |
| Infection | 0.2 (1) |
| Disability | 0.2 (1) |
| TOTAL | 100 (600) |

Respondents were asked if they would support dedicated item codes for specific conditions. A total of 20.6% (n=44) would support a dedicated item code for preventative health care, 18.7% (n=40) for chronic condition management, 17.8% (n=38) for women's health and 6.1% (n=13) for mental health conditions. Of the 79 comments provided, 28 thought that the dedicating item codes for specific conditions would add complexity or commented that they frequently treated clients with co-morbidities ('overlapping conditions') and dedicated item codes for specific conditions might not apply.

A total of 122 respondents made further comments: 33 of these reinforced the importance of maintaining simplicity and flexibility in item codes; 10 raised concerns about the inclusion of their qualifications in eligibility criteria for health fund rebates. Nine respondents reiterated that they preferred item codes by appointment type and time and six wanted more accessible claiming for clients and to minimise the administrative burden on practitioners. Five respondents requested item codes that differentiated between service and product. Four advocated for item codes for client wellbeing and preventative health care. Four reinforced the complexity of naturopathic consultations and that treatments often involved treating co-morbidities.

## Discussion

The practitioner profile of respondents in this survey is dominated by naturopaths, herbal medicine practitioners and nutritionists, the group of ATMS' Accredited Members and Fellows most directly affected by the removal of health fund rebates for 16 natural medicine practices in 2019.(4) A previous survey of ATMS and other Australian professional association members in 2022(5) also found that the primary practice setting of respondents was solo private practice and that most practised in metropolitan settings. Duration of consultations was

PREVIOUS STUDIES HAVE REPORTED CHRONIC HEALTH CONDITIONS AND HEALTH PROMOTION AMONG THE KEY REASONS FOR CLIENTS SEEKING NATURAL MEDICINE CARE.(10, 11) IN THIS SURVEY, RESPONDENTS MOST OFTEN REPORTED THAT THEIR CLIENTS PRESENTED WITH CONCERNS RELATED TO WOMEN'S HEALTH (E.G., MENOPAUSE, HORMONE ISSUES, FERTILITY, ENDOMETRIOSIS), GUT HEALTH (E.G., MICROBIOME RESTORATION, WHOLE BODY NUTRITION), AND MENTAL HEALTH (E.G., STRESS AND ANXIETY).

also similar. However, respondents of the current survey had been in clinical practice longer than respondents in the previous survey, with 49.2% and 31.3% respectively being in practice more than 20 years.

Fees for natural medicine consultations are generally paid out-of-pocket by clients because Medicare benefits do not usually cover these services.(6) The exception is the Medicare rebate available for chiropractic and osteopathic services under the Australian Government's Complex Care Plan for managing chronic health conditions.(7) To the best of our knowledge, this survey is the first to provide insights into the fee setting practices of Australian natural medicine practitioners. Respondents set their fees based on qualifications and experience (60%), session duration/complexity (47%), and client demographics and location (38%). Business overheads (23%) and market benchmarking (23%) were considered by only about a quarter of respondents. Natural medicine practitioners' fee setting is governed by Australian Consumer Law and competition regulations, which prohibit collusion on fees and misleading conduct.(8) Australian medical practitioners receive the following advice about fee setting from the Royal Australian College of General Practitioners (RACGP):(9) medical practitioners should consider practice viability, including practice running costs (e.g. staff wages, insurances,), their specialisation and their patients' capacity to pay for services when setting their fees. They cautioned that setting fees too low could risk increased pressure on GPs to work faster and longer.(9) Such advice may form part of final year students' education and has been provided to ATMS members via 'transition to practice' webinars.

Previous studies have reported chronic health conditions and health promotion among the key reasons for clients seeking natural medicine care.(10, 11) In this survey, respondents most often reported that their clients presented with concerns related to women's health (e.g., menopause, hormone issues, fertility, endometriosis), gut health (e.g., microbiome restoration, whole body nutrition), and mental health (e.g., stress and anxiety). The prominence of mental health concerns aligns with the Australian Government's recent focus on improving the mental health and wellbeing of Australians, given the high prevalence of people with mental health concerns in Australia.(12)

The aim of this survey was to inform advocacy efforts for private health fund item codes and support the development of practical and equitable funding models for natural therapies. Results highlighted strong practitioner preference for simple, flexible item codes. There was an overwhelming opposition to GP referral requirements for clients' receiving health fund rebates for natural medicine services. Natural medicine practitioners

generally express positive perceptions of GPs and their management of client care, however the gatekeeping role of GPs has been challenged. In one study, co-located natural medicine practitioners were interviewed about their experiences of GP referrals.(13) Some supported the GP as gatekeeper because of their diagnostic skills, particularly in regard to patients requiring immediate medical intervention. However, others believed their own education and experience in identifying those requiring referral for medical care, in managing complex chronic health conditions and in illness prevention more than adequate to act as first line care. Natural medicine practitioners have expressed concerns about GPs' scepticism regarding the evidence-base for natural medicine and their reticence to refer clients to them. (14-16) Respondents also referred to the widespread provision of multi-modal, holistic services by members for clients, often with complex health care needs and co-morbidities(17-19) and the challenge this brings to health fund item codes. However, around a fifth of respondents supported dedicated item codes for preventive health care, chronic condition management, women's health and mental health conditions.

The results of this survey provide strong evidence to inform ATMS's strategic consultation with private health funds and to reinforce their advocacy for better recognition and support of natural therapy practitioners. ATMS is well-positioned to represent these needs to health funds and stakeholders and pledges to continue to lead a data-informed approach to practitioner advocacy and sector reform.

## Strategic Recommendations

Based on the results of this survey, ATMS recommends the following:

**1. Design simplified, flexible item Codes**

- Prioritise appointment-type or time-based options with minimal complexity
- Consider bundling options for consultation + dispensary or wellness programs

**2. Advocate against GP referral requirements**

- Align with member sentiment that referrals create unnecessary barriers

**3. Support broad claim categories**

- Advocate for codes that recognise care for chronic conditions, preventative health, and women's health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**4. Equip practitioners with pricing tools**

- Develop education or templates to support fee explanation and documentation

**5. Encourage electronic claiming adoption**

- Provide guidance on adopting HICAPS/HealthPoint systems

**6. Co-design future advocacy**

- Invite interested members into working groups to help shape code design, policy input, and fund consultations

## Limitations

A limitation of this survey is the low response rate. However, many respondents were naturopaths and herbal medicine practitioners who were directly affected by the removal of health fund rebates for their services in 2019. It is likely that, although emailed to all members, this survey reports the views of those most interested in providing comment on ATMS' advocacy for health fund rebates for naturopaths and herbal medicine practitioners.

## Conclusion

This survey confirms that those ATMS practitioners who responded to the survey are experienced practitioners who provide lengthy consultations to assist clients with complex care needs, including women's health, gut and digestive health and mental health. There is strong consensus for simplified item coding, the rejection of GP gatekeeping, and the need to reflect modern, multi-modality service delivery in health fund models.

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# ATMS Health Fund Survey
## *Highlights*

### 1. Practitioner profile

**Primary Modality Practised**

- Naturopathy: 60%
- Remedial Massage: 34%
- Nutrition: 19%
- Herbal Medicine: 23%

**Multimodal Qualifications**

- 68% of practitioners are qualified in more than one modality

**Practice Setting**

- 78% are sole practitioners
- 23% work in multidisciplinary clinics
- 21% offer online or telehealth consultations
- Other settings include mobile visits and coaching platforms

**Clinic Location**

- 61% are based in metropolitan areas
- 44% operate in regional or remote areas

**Years in Practice**

- 49% have practiced 21+ years
- 20% have practiced 11–20 years
- 30% are in the first 10 years of their careers

### 2. Health Fund Engagement and Billing

**Registration Status**

- 51% are active registered providers with health funds
- 26% are previously registered or not currently active
- 6% are not eligible due to their modality

**Billing Model**

- 56% bill by appointment type
- 31% bill by time (e.g. 30/60 minutes)
- 9% use bundled or customised billing methods

**Consultation Duration**

- Initial consultations average 62 minutes
- Subsequent consultations average 38 minutes

**Electronic Claiming Systems**

- Only 20% use HICAPS or similar systems
- 57% do not currently use electronic claiming
- 24% are willing to adopt systems in future

### 3. Service Delivery Trends

- In-person care: 76%
- Telehealth: 63%
- Dispensing natural products: 58%
- Wellness/treatment programs: 28%
- Home-based visits: 25%
- Group education/stretching classes: 14%

### 4. Pricing Strategies & Item Code Preferences

**Fee Setting Influences**

- Qualifications & experience (60%)
- Session duration/complexity (47%)
- Client demographics and location (38%)
- Business overheads (23%)
- Market benchmarking (23%)

**Item Code Structure Preferences**

- 43% prefer codes based on appointment type
- 22% prefer by service type
- 20% prefer time-based
- 72% prefer simple and flexible item codes
- Only 6% want detailed itemisation

**GP Referral Requirement**

- 86% say GP referrals should not be required
- Only 3% support referral requirements

### 5. Client Needs & Special Item Code Support

**Most Common Client Concerns**

- Hormonal and reproductive health
- Digestive/gut health
- Mental health/stress and anxiety
- Chronic pain
- Preventative health care/wellness care
- Immune support and fatigue

**Support for Dedicated Item Codes**

- Preventative health care: 21%
- Chronic condition management: 19%
- Women's health: 18%
- Mental health support: 6%


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# *The critical role of sleep* in optimising health

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## Abstract

Sleep is essential for optimum physical and mental health and wellbeing, supporting critical biological processes such as energy restoration, metabolism regulation, thermoregulation, immune function, and memory formation. Deficient sleep has been linked to an increased risk of mortality and is associated with a range of adverse health outcomes, including cardiovascular disease and metabolic syndrome, along with adverse effects on mental health, cognitive decline, weight gain and obesity, reproductive and hormonal health, muscle health, and immune function. This article provides an overview of the physiological mechanisms underlying sleep and explores the profound impact of sleep deprivation on various body systems. It highlights the intricate relationship between sleep and overall health.

## Introduction

Sleep is fundamental for maintaining optimal physical and mental health.[1,2] Both sleep quantity and sleep quality are essential for nearly every body system.[1] Sleep is described as a natural and reversible state characterised by decreased responsiveness to external stimuli[3,4] and a period of relative inactivity,[3] which is accompanied by a loss of consciousness.[3,4] Sleep occurs at regular intervals and is regulated through homeostatic mechanisms.[3] The sleep-wake cycle is often considered the most significant expression of the circadian rhythm.[4,5] Sleep and the circadian system are closely connected.[5] Sleep undergoes significant changes throughout human development.[6] Infants typically need between 14 and 20 hours of sleep each day,[6,7] a duration that is reduced by half by the time they reach adolescence,[6] to about 8-10 hours of sleep each day.[7] Furthermore, whereas infants experience sleep in several segments (e.g., 6-8 naps per day),[6,7] by the age of 5 to 7 years, sleep becomes consolidated into a single continuous period.[6,7]

Sleep is regarded as a powerful restorative for overall health.[1,3] Sleep performs several fundamental biological functions in the body, such as serving an energy-saving function,[1,3] restoring energy resources,[1,3] regulating metabolism,[1,3] thermoregulation,[1,3] adaptive immune functions,[1,3] learning and the formation of memories,[8] and allowing for maintenance, repair, and building of the body.[1] Sleep also plays a key role in modulating neuroendocrine function and glucose regulation.[9,10] Changes in sleep physiology affect cognition (e.g., memory consolidation).[3,11]

Many people are not getting enough sleep in terms of both the quantity and quality of sleep[1] and problems with sleep are common worldwide.[12] Lack of sleep has become standard behaviour in modern society.[13] The cumulative sleep loss per working week of a substantial portion of the adult population can be equivalent to missing a whole night of sleep.[14] Sleeping as little as possible is often seen as an admirable behaviour in contemporary society[9] and people often mock the time spent sleeping as "lost" time.[11]

Suboptimal sleep adversely affects cardiovascular health,[1,4] type 2 diabetes,[4] mental health,[1] cognition,[1] memory consolidation,[1] reproductive health,[1] hormone regulation,[1] immunity,[1] and pain.[4] Poor sleep quality and irregular timing of sleep (for example, shift work) have been linked to mortality,[2] metabolic syndrome,[2] impaired glucose metabolism,[2] type 2 diabetes,[2,4] coronary heart disease,[2] obesity,[4] and accidents.[2] Sleep deprivation is closely associated with health and performance, particularly among individuals employed in various fields, including multi-shift workers, nurses, doctors, students in professional schools, and members of the armed forces, significantly impairing their performance.[15]

Sleep is essential for the development and growth of children's brains, as well as for their learning, memory functions, academic performance, and overall health.[7] Disruptions in sleep can cause various negative outcomes, such as excessive daytime drowsiness, impairments in neurocognitive function and performance, poor academic

achievements, and hindered growth.[7] Children can experience sleepwalking, night terrors, and nightmares.[16] Chronic sleep deprivation is a common issue affecting adolescents.[17] Prolonged lack of sleep in adolescents impairs overall health, behaviour, mood, and academic performance and achievement in this vulnerable age group, particularly during a critical period marked by rapid changes in physical development and emotional regulation.[17] Sleep disorders are not part of normal ageing in older adults; however, their prevalence tends to increase with age,[18,19] likely to be due to longer sleep latency, lower sleep efficiency, and reduced total sleep duration.[19]

Some common sleep disorders include insomnia,[1,4,16,18,20,21] chronic insomnia,[16,19] obstructive sleep apnoea,[1,7,17,19,22,23] restless leg syndrome,[7,17] narcolepsy,[1,7,17] and circadian-rhythm-disorders.[1]

Sleep disorders can lead to significant morbidity and contribute to or aggravate a variety of health conditions.[1] Chronic sleep loss might also be the consequence of a pathological condition, particularly the most common sleep disorder, obstructive sleep apnoea.[14] Chronic sleep disturbances can either be a cause of  or be caused by various recognised factors that lead to low-grade inflammation.[4] These factors include circadian disruption, obesity, negative lifestyle choices such as lack of physical activity and poor dietary habits, as well as psychosocial elements like stress, feelings of loneliness, and low socioeconomic status.[4]

This brief article explores the physiology of sleep and the various body systems affected by sleep deficiency.

## The physiology of sleep

Sleep and wake states are generated by innate neural networks and regulated by the circadian rhythm, a mechanism that governs the body's internal clock.[1] The initiation and maintenance of sleep depends on the suppression of ascending arousal systems that promote wakefulness. During the period of wakefulness, extracellular adenosine levels rise, and these increasing levels signal a transition toward sleep. Adenosine activates inhibitory neurons in the ventrolateral preoptic area of the brain, acting as a switch for sleep.[1]

Intrinsic biological clocks regulate various homeostatic functions within the body, encompassing sleep and wake cycles.[1] These circadian clocks follow and adhere to rhythms, which are endogenously driven physiological oscillations that have a cycle duration of approximately 24 hours.[1] The primary, or central, circadian clock is known as the suprachiasmatic nucleus and is located within the hypothalamus.[1]

Along with the endogenous cycling of transcriptional and translational signals, the circadian rhythm is also affected by external influences.[1] These external influences include exposure to light and darkness, along with social cues.[1] Light signals are detected by the retina, which transmits electrical impulses to the brain, signalling that it is daytime. The retina also recognises the absence of light exposure.[1] In situations of low light[1] and during sleep,[5] the pineal gland secretes melatonin. Melatonin levels rise in the evening and reach their peak in the early morning.[1] Melatonin directly influences the mechanisms that regulate sleep. Similarly, cortisol, a hormone that stimulates activity, increases in response to morning light exposure.[1] During sleep, leptin is secreted by adipocytes, helping to reduce feelings of hunger that could disrupt sleep during this period.[5]

A restful night's sleep involves a rhythmic, cyclical process that alternates among three stages of non-rapid eye movement (NREM) sleep[1,4,19] and a fourth stage called rapid eye movement (REM) sleep.[1,3,4,19] Stage 1 is a light sleep that occurs when a person's eyes are closed, and waking is relatively easy. It is often seen as the 'entry' into sleep. Usually it makes up about 5% of a whole night's sleep,1 and is dominated by slow-wave sleep.[3] Stage 2 is a slightly deeper sleep, marked by the stopping of eye movements,[1] a slowing of the heart rate,[1] and a decrease in body temperature.[1] It accounts for roughly 50% of sleep during the night and is characterised by sleep spindles.[1] Sleep spindles are suggested to support memory consolidation.[6] Stage 3 sleep, also known as deep sleep, slow-wave sleep, or delta sleep, is characterised by high-amplitude slow waves and is mainly seen in the first half of the night. It should generally make up 20-25% of total sleep.[1] Deep sleep is the stage during which the body undertakes much of its repair work and boosts the immune system overnight.[1] Waking someone during deep sleep is often tricky, and the amount of deep sleep tends to decrease with age. REM sleep follows stage 3 and is marked by rapid eye movements and skeletal muscle relaxation.[1,3,4] It mostly occurs in the second half of the night and makes up about 20% of a typical night's sleep.[1] During REM sleep, people experience dreaming,[1,4] and it is believed that much of memory consolidation happens during this phase.[1] REM sleep has been linked to early learning by supporting the formation of new dendritic spines during early development.[6] A typical night consisting of 8 hours of sleep encompasses roughly five cycles of NREM-REM sleep, each lasting about 90 minutes, which reflects an ultradian rhythm. While NREM sleep is primarily regulated by homeostatic mechanisms, REM sleep is chiefly governed by circadian influences.[4] Preschool-age children who are typically developing and exhibit higher levels of REM sleep tend to retain more learned information than their peers with lower levels of REM.[6] In adults, the characteristics of REM sleep are associated with procedural memory, potentially interacting to facilitate the learning and consolidation of new information.[6] Procedural memories relate to skills and motor sequences, relying on specific neural circuits (such as the basal ganglia and cerebellum) in adults.[6]

## Conditions associated with sleep deficiency

Lack of sleep has been associated with an increased risk of mortality,[2,4,9,12] and influences numerous health conditions

related to cardiometabolic health, mental health, cognitive health, weight gain, obesity, reproductive health, hormonal health, muscle health, and immune health.

### Sleep deficiency and cardiometabolic health

Suboptimal sleep impairs cardiometabolic health.[1,4] The quality of sleep has a significant effect on the cardiovascular system. During healthy sleep, the heart rate slows down, blood pressure decreases, and there is a shift in autonomic balance from sympathetic dominance to a more parasympathetic state. This resting period of the cardiovascular system appears essential for maintaining optimal cardiovascular health. Elevated autonomic activity places additional stress on the cardiovascular system, thereby increasing the risk of adverse cardiovascular events.[1] A lack of sleep has been associated with cardiovascular disease,[12] coronary heart disease,[2], myocardial infarction,[1] stroke,[1] metabolic syndrome,[2,24,25] type 2 diabetes,[2,12,13] decreased insulin sensitivity,[13] insulin resistance,[1] β-cell dysfunction,[1] altered glucose homeostasis,[26] impaired glucose tolerance,[13] endothelial dysfunction,[1] hypertension,[1,2] increased risk for arrhythmia,[1] and increased autonomic arousal.[1]

It is interesting to note that epidemiological studies show that the link between sleep duration and cardiovascular events, as well as overall mortality, follows a J-shaped pattern. Both too little sleep, under 6 hours, and too much sleep, over 9 hours, are associated with a higher risk of cardiovascular death and death from all causes.[1] A systematic review and meta-analysis found a "U-shape" relationship between sleep duration and metabolic syndrome.[25,27] A meta-regression of 40 prospective cohort studies involving 2,200,425 participants revealed a J-shaped association between sleep duration and all-cause mortality. Both shortened (less than 7 hours) and prolonged sleep durations (greater than 8 hours) were associated with increased risk of all-cause mortality.[28] The meta-regression analysis concluded that long sleep appeared to be a greater risk factor for mortality than short sleep.[28]

### Sleep deficiency and mental health

Suboptimal sleep affects mental health.[1,4] The period of sleep during the night in humans is characterised by a significant reduction in the activity of the two primary stress systems: the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system. This reduction is accompanied by a decrease in the blood concentrations of cortisol, adrenaline, and noradrenaline.[5]

Sleep plays a significant role in how adults process and manage emotions.[6] In adults, the processing of emotions is often linked to REM sleep; however, recent research indicates that slow-wave sleep also plays a key role. During REM sleep, theta oscillations originating from the amygdala synchronise with the activity of the hippocampus and cortex, which is associated with the enhancement of emotional memories. Furthermore, when emotional memories incorporate declarative components, it is likely that slow-wave sleep also contributes to these components. Likewise, sufficient sleep is essential during childhood to support and enhance emotional processing.[6]

There is a two-way link (bidirectional connection) between sleep and mental wellbeing.[1] For example, individuals suffering from depression may experience insomnia, diminished slow-wave sleep, and higher REM sleep disinhibition. Conversely, insomnia and sleep disturbances can act as separate risk factors for depression.[1] Additionally, insomnia and inadequate sleep patterns can increase the risk of anxiety and overall poor mental health.[1]

A lack of sleep has adverse effects on mood,[1] irritability,[1] and sense of wellbeing.[1] Sleep quality has also been associated with depression.[2] Research indicates that children aged 8 to 12 demonstrated a decrease in positive affect during a laboratory task and exhibited diminished emotional regulation when subjected to a sleep restriction by 1 hour over a period of 4 days. Similarly, when adolescents aged 14 to 17 experienced a reduction in sleep to 6.5 hours for five consecutive nights, they reported increased levels of emotional dysregulation, a finding that was supported by parental observations.[6]

### Sleep deficiency and cognitive health

The role of sleep in relation to the brain has been described as a process of detoxifying the brain from free radicals, facilitating the replenishment of glycogen, and promoting the formation of memories and synaptic plasticity.[3] Sleep plays a crucial role in the development of the central nervous system.[8]

Sleep is essential for stabilising and integrating memories.[29] Suboptimal sleep adversely affects cognitive health.[1,6,8] Sleep has been linked to developments in functional brain connectivity.[6] There are links between sleep microstructure and brain maturation.[6] Slow-wave activity propagation is positively associated with the myelin content in both the whole brain and inter-hemispheric regions, whereas the speed of propagation and the extent of cortical involvement are correlated with the myelin content found in the superior longitudinal fascicle.[6] The processes of acquiring and recalling knowledge take place during periods of wakefulness.[1] Sleep plays an essential role in the consolidation of memory, which involves the stabilisation of memories and the integration of learned information into long-term storage.[1] Furthermore, there appears to be a mechanism that filters out unimportant memories, preventing their consolidation. During stage 3 NREM sleep, neuronal replays of representations from the hippocampus facilitate the gradual transformation and integration of these representations into neocortical networks, a process called systemic consolidation.[1] Additionally, brain oscillations during REM sleep contribute to the stabilisation of these transformed memories by enhancing local synaptic plasticity, a phenomenon known as synaptic consolidation.[1]

Napping in children supports learning, memory retention, and consolidation throughout early childhood.[6] Children aged 7 to 12 learned new vocabulary, which was followed by either overnight sleep or daytime wakefulness. Recognition of words improved after sleep. However, the recall of the wake group also showed improvement after a delayed overnight sleep. Similarly, the memory of 9 to 12-year-olds in a word-matching exercise was enhanced after overnight sleep.[6] Therefore, overnight sleep appears to facilitate the consolidation of declarative memory in children, even when there are delays between the initial learning and the sleep period.[6] Sleeping soon after acquiring knowledge may also be advantageous in later stages of life. High school students studying vocabulary from a foreign language showed increased forgetting when they learned at least 12 hours before sleep, compared to learning just a few hours before sleeping. Studies have shown that memory retention was comparable among teenagers who slept for 4 to 5 hours as against those who slept for 9 hours.[6]

A lack of sleep has been associated with impaired cognition,[1,11,12,29] cognitive slowing,[15] impaired memory,[11,15] impaired memory consolidation,[1] impaired executive control tasks,[11] decrease in vigilance,[15] impaired performance on attention,[11] decreased sustained attention,[15] impaired neurobehavioural performance,[2] diminished motivation,[12] decreased brain glucose utilisation,[1] and impairment of the glymphatic system.[1] Sleep disruption is particularly widespread in people with neurodegenerative dementias.[30] Beta-amyloid has been correlated with reduced REM sleep amount in healthy older adults and patients with Alzheimer's Disease.[30]

### *Sleep deficiency, weight gain, and obesity*

Lack of sleep has been linked to an increased risk of obesity,[2,8,9,31,32] increase in body mass,[8] and weight gain.[8,26,31] Lack of sleep down-regulates the satiety hormone leptin,[1,26] and up-regulates the appetite-stimulating hormone ghrelin,[1,26] while also contributing to adipokine dysfunction,[1] and increased hunger,[1,8,26] appetite,[8] and food intake,[13] contributing to nocturnal free fatty acids,[1] which can lead to dysregulation of the neuroendocrine control of appetite.[10] To expand on this, disrupted sleep leads to a disturbance in the normal equilibrium of ghrelin and leptin, two hormones that regulate hunger and feelings of fullness, respectively. When these hormones are not in balance, individuals often experience heightened hunger and appetite, along with a diminished sense of fullness, thereby raising the risk of obesity and type 2 diabetes.[1]


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### Sleep deficiency and reproductive and hormonal health

Suboptimal sleep can impact reproductive and hormonal health.[1] Insufficient sleep affects the hypothalamic-pituitary-adrenal axis,[8] hypothalamic-pituitary-gonadal axis,[8] and the pituitary-gonadal axis.[1] Disturbances in sleep can result in central suppression of testosterone [1,8] and changes in the pattern of rhythmic secretion of testosterone,[8] which may present as sexual dysfunction or a reduction in libido.[1] Numerous hormones follow a circadian rhythm and can be influenced by poor sleep quality, irregular sleep patterns, and underlying sleep disorders.[1] For example, cortisol levels rise in the morning and play a crucial role in managing physical stress.[1] A lack of sleep leads to an increase in cortisol.[8] Similarly, growth hormone exhibits a circadian pattern and is mainly released during deep sleep.[1] Disrupted sleep or a lack of deep sleep can impede growth and muscle tissue repair.[1]

### Sleep deficiency and muscle health

Suboptimal sleep affects muscle repair.[1] As mentioned above, disrupted sleep or a lack of deep sleep can impede growth and muscle tissue repair.[1] A lack of sleep affects insulin-like growth factor-1 (IGF-1).[8] The signalling mediated by IGF-1 plays a crucial role in promoting muscle protein synthesis, which is a key factor in muscle growth and is associated with adaptive mechanisms in skeletal muscle.[8] The maintenance of muscle mass reflects a balance between protein synthesis and breakdown.[8] When synthesis exceeds breakdown, it encourages muscle growth (protein build-up), whereas a higher rate of degradation causes muscle wasting and a decline in protein levels.[8] Additionally, the health of skeletal muscle is closely regulated by hormonal and nutritional factors, which help maintain the ongoing balance between anabolic (growth) and catabolic (breakdown) processes, ultimately affecting muscle protein content.[8] Additionally, increased cortisol levels may influence muscle protein metabolism, as glucocorticoid-induced muscle atrophy correlates with heightened catabolism and diminished synthesis of muscle proteins, thereby exacerbating muscular atrophy.[8] The effects of insufficient sleep on physical performance are evident through a reduction in the capacity to perform in maximal exercise, a slower self-selected walking pace, and increased perceived exertion.[15]

### Sleep deficiency and immune health

The relationship between sleep and immunity is bidirectional.[4] Activation of the immune system influences sleep patterns, while the quality of sleep subsequently affects both the innate and adaptive components of the body's defence mechanisms.[4] The circadian system and sleep play a significant role in regulating immune functions.[5] Sleep has a significant impact on numerous immune functions, including the levels of specific leukocyte subsets present in the bloodstream, the production of cytokines by particular cells, and various other immune cell activities.[5] The influence of sleep is selective, affecting some aspects of the immune system while leaving others unchanged. It seems that sleep preferentially enhances the production of pro-inflammatory cytokines, which are essential for activating adaptive immune responses.[5] Sleep enhances the development of immunological memory and enhances the adaptive immune response against the invading antigens.[5] During the sleep phase, immune cells in the early stages of differentiation reach their peak levels in both peripheral blood and lymph nodes.[5] The number of immune cells in peripheral blood shows a significant sleep-wake rhythm over the 24-hour cycle, with peaks and troughs at different times.[5] Unlike nocturnal wakefulness, sleep promotes the production of pro-inflammatory and Th1 cytokines. In the early stages of sleep, there is a shift in the balance between Th1 and Th2 cytokines, favouring an increase in Th1 cytokine production. This shift is later replaced by a dominance of Th2 cytokine production during the later stages of sleep.[5]

Chronic sleep deficiency disrupts immune homeostasis[4] and suboptimal sleep quality has an adverse effect on immune health.[1] Sleep loss and sleep disturbance decrease the activity of natural killer cells and the production of antibodies, increasing vulnerability to infections.[1] Additionally, lack of sleep triggers the production of inflammatory cytokines, which raises the likelihood of developing cardiovascular and chronic metabolic diseases.[1] Suboptimal sleep increases inflammation[1] with an increase in inflammatory cytokines.[1] Elevated levels of pro-inflammatory and/or Th1 cytokines have been observed during the rest phase, often coinciding with the initial segment of sleep characterised by slow wave activity. This rest period is associated with an increase in stimulated cytokine production, resulting from a shift towards greater secretion of hormones that have pro-inflammatory effects.[5] Sleep disturbances can increase the risk of allergic reactions.[4] Sufficient sleep duration can improve infection outcomes and is linked to a decreased risk of infectious diseases.[4]

## Conclusion

In conclusion, sleep is a vital physiological process that underpins numerous aspects of physical and mental health. From restoring energy and regulating metabolism to supporting immune function and memory consolidation, sleep plays a crucial role as a cornerstone of overall wellbeing. The widespread impact of sleep deprivation across diverse biological systems, ranging from cardiovascular health to cognitive function, demonstrates the critical need for adequate sleep in maintaining health and preventing disease. As evidence continues to accumulate regarding the detrimental effects of insufficient sleep, it is increasingly clear that addressing sleep deficits should be a priority in clinical practice and public health initiatives. Ultimately, enhancing sleep quality and duration holds the potential to improve health outcomes across a wide range of physiological systems, making it an essential focus for health promotion and disease prevention strategies.

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# More research in Homeopathy

**Robert Medhurst** | BNat ND DNutr DRM DBM DHom

When properly prescribed, homeopathy is a very effective method of healing. For those of us who prescribe these medicines, this effectiveness is obvious - we don't need to be convinced by randomised double-blind trials, systematic reviews, or any other form of research to feel confident that it's capable of assisting our clients to return to a state of good health. For some people though - some of our potential clients, professional colleagues and professional critics - it requires rigorous external validation. Fortunately, there are numerous examples of the efficacy of homeopathy that can be found in the peer-reviewed scientific literature and following are some recent examples of human and in vitro work that's been done in this area.

## Human Research

**1. Saha S, Tamkeen R, Saha A. An open observational trial evaluating the role of individualised homoeopathic medicines in the management of nocturnal enuresis. Indian Journal of Research in Homoeopathy. 2018;12(3):149-156.** This Indian study looked at the homeopathic management of nocturnal enuresis using a prospective, single arm, pre-post comparison, non-randomised, open-label, observational trial on 34 people, 5–18 years of age, presenting with nocturnal enuresis at the outpatient department of the Calcutta Homoeopathic Medical College and Hospital. A scoring scale was developed; scores were measured at baseline, and after 2nd and 4th month of treatment. The most frequently indicated medicine was Kreosotum (n = 9; 26.5%). Compared to baseline, scores reduced significantly over 2 months and the use of the homoeopathic medicines was associated with a statistically significant reduction in symptoms.

**2. Sharma R, et al. Assessment of the effectiveness of homoeopathic remedies in improving quality of life of chronic urticaria patients in a typical clinical setting. Indian Journal of Research in Homoeopathy. 2018;12(3):139-148.** The aim here was to evaluate the effectiveness of constitutional homoeopathic treatment for chronic urticaria (CU) patients attending the Outpatient Department of the State Homoeopathic Dispensary, Ahmadpur, Aligarh, Uttar Pradesh, India. A CU-Quality of Life (CU-QoL) questionnaire and average Urticaria Activity Score for 7 days (UAS7) questionnaire were filled out at baseline and at the 3rd, 6th, 9th and 12th months of treatment. Scores were analysed using one-way repeated measures ANOVA with SPSS version 19. A total of 134 patients were screened, 70 were diagnosed with CU and enrolled in the study. Their data were analysed under modified intention-to-treat approach. A significant difference was found between the baseline and 12th month CU-QoL score (mean difference 34.14 with standard error of 1.65, 95% confidence interval, lower bound 29.31, upper limit 38.94, $P < 0.001$). A one-way repeated measures ANOVA was calculated for comparing CU-QoL scores ($F [2.45, 169.46] = 260.89$, $P \leq 0.000$, effect size = 0.791). Apis mellifica (n = 10), Natrum muriaticum (n = 9), Rhus toxicodendron (n = 8) and Sulphur (n = 8) were the most frequently used medicines.

**3. Adler UC, et al. Double-blind evaluation of homeopathy on cocaine craving: A randomized controlled pilot study. J Integrative Medicine. 2018;16(3):178-184.** This study investigated the effectiveness and tolerability of homeopathic Q-potencies of opium and Erythroxylon coca in the integrative treatment of cocaine craving in a community-based psychosocial rehabilitation setting. It used a randomised, double-blind, placebo-controlled, parallel-group trial design over 8 weeks and was conducted at the Psychosocial Attention Center for Alcohol and Other Drugs, Sao Carlos/SP, Brazil. A total of 54 people with an International Classification

of Diseases-10 diagnosis of cocaine dependence (F14.2) were enrolled in the study. The patients were randomly assigned to either of two treatment groups: psychosocial rehabilitation plus homeopathic Q-potencies of opium and E. coca (homeopathy group), or psychosocial rehabilitation plus indistinguishable placebo (placebo group). The mean percentage of cocaine-using days in the homeopathy group was 18.1% (standard deviation (SD): 22.3%), compared to 29.8% (SD: 30.6%) in the placebo group ($P < 0.01$). An analysis of the Minnesota Cocaine Craving Scale scores showed no between-group differences in the intensity of cravings, but results significantly favoured homeopathy over placebo in the proportion of weeks without craving episodes and the patients' appraisal of treatment efficacy for reduction of cravings.

**4. Gleiss A. Frass M, Gaertner K. Re-analysis of survival data of cancer patients utilizing additive homeopathy. Complement Ther Med. 2016;27:65-7.** This was a brief re-analysis of the data from a previous study using homeopathy in cancer therapy, where the research team took account of a probable immortal time bias. For patients suffering from advanced stages of cancer and surviving the first 6 or 12 months after diagnosis, respectively, the results showed that utilising homeopathy gave a statistically significant ($p<0.001$) advantage over control patients regarding survival time. These results suggested that patients in an advanced stage of cancer receiving additional homeopathic treatment may have an addition survival time of up to 12 months after diagnosis.

**5. Bagot JL. Using hetero-isotherapics in cancer supportive care: The fruit of fifteen years of experience. Homeopathy. 2016;105(1):119-25.** In this work the authors set out to determine if the use of homeopathic medicines made from chemotherapy drugs, also called hetero-isotherapy, would reduce the level of side-effects from chemotherapy experienced by people being treated for cancer. The treatment involved taking a daily dose of the homeopathic medicine made from the chemotherapy drug used, with the patient taking ascending homeopathic potencies from 5C to 15C. Researchers observed a significant decrease in side effects, allergic reactions and late sequelae in the more than 6,000 hetero-isotherapic treatments given to some 4,000 patients. The improved tolerance to chemotherapy and the improvement

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in quality of life associated with this treatment led to an increase in treatment adherence. No interference with chemotherapy was observed. Where it was necessary to prescribe another homeopathic medicine, combination with hetero-isotherapy generally improved its effectiveness.

**6. Poole J. Individualised homeopathy after cancer treatment. Nurs Times. 2014;110(41):17-9.** This was a small, community-based study carried out in the UK which explored the benefits of a 3-month course of individualised homeopathy (IH) for survivors of cancer. A total of 15 survivors of any type of cancer, for whom up to 3 years had passed since their conventional treatment ended, were recruited by a walk-in cancer support centre, and patients scored their total, physical and emotional wellbeing using the Functional Assessment of Chronic Illness Therapy for Cancer before and after receiving 4 IH sessions over a 3 month period. The group as a whole showed statistically significant, positive results for total, physical and emotional wellbeing, suggesting IH has a role in symptom control and general recovery from conventional cancer treatment.

## In-Vitro Research

**1. Bishayee K, Sikdar S, Khuda-Bukhsh AR. Evidence of an Epigenetic Modification in Cell-cycle Arrest Caused by the Use of Ultra-highly-diluted Gonolobus Condurango Extract. Pharmacopuncture. 2013;16(4):7-13.**This work was carried out to determine if homeopathically prepared Condurango 30C was capable of arresting the cell cycles in cervical cancer cells (HeLa cells) by triggering an epigenetic modification through a modulation of the activity of the key enzyme histone deacetylase 2 compared to a succussed alcohol (placebo) control. The team checked the activity of different signal proteins (p21(WAF), p53, Akt, STAT3) related to deacetylation, cell growth and differentiation by western blot and analysed cell-cycle arrest, if any, by fluorescence-activated cell sorting. After viability assays had been performed with Condurango 30C and with a placebo, the activities of histone de-acetylase (HDAC) enzymes 1 and 2 were measured colorimetrically. While Condurango 30C induced cytotoxicity in HeLa cells in-vitro and reduced HDAC2 activity quite strikingly, it apparently did not alter the HDAC1 enzyme; the placebo had no or negligible cytotoxicity against HeLa cells and could not alter either the HDAC 1 or 2 activity. Data on p21(WAF), p53, Akt, and STAT3 activities and a cell-cycle analysis revealed a reduction in DNA synthesis and G1-phase cell-cycle arrest when Condurango 30C was used at a 2% dose. In summary, Condurango 30C appeared to trigger key epigenetic events of gene modulation in effectively combating cancer cells, which the placebo was unable to do.

**2. Saha S, et al. Calcarea carbonica induces apoptosis in cancer cells in p53-dependent manner via an immuno-modulatory circuit. BMC Complement Altern Med. 2013;13:230.** The authors of this study attempted to evaluate the efficacy of Calcarea carbonica, a homeopathic medicine, as an anti-cancer agent and to delineate the molecular mechanism(s) underlying Calc carb-induced tumour regression via trypan blue dye-exclusion test, flow cytometric, Western blot and reverse transcriptase-PCR techniques. Further, siRNA transfections and inhibitor studies were used to validate the involvement of p53 pathway in Calc carb-induced apoptosis in cancer cells. The results confirmed a significant anti-cancer effect and that Calc carb induced a "two-step" mechanism of the induction of apoptosis in tumour cells, i.e., (1) activation of the immune system of the host; and (2) induction of cancer cell apoptosis via immuno-modulatory circuit in p53-dependent manner by down-regulating Bcl-2:Bax ratio. Bax up-regulation resulted in mitochondrial transmembrane potential loss and cytochrome c release followed by activation of caspase cascade. Knocking out of p53 by RNA-interference inhibited Calc carb-induced apoptosis thereby confirming the contribution of p53.

**3. Saha S, et al. Contribution of the ROS-p53 feedback loop in thuja-induced apoptosis of mammary epithelial carcinoma cells. Oncol Rep. 2014;31(4):1589-1598.** Workers here examined the anti-tumourigenic activity of homeopathically prepared Thuja occidentalis, and the molecular mechanisms underlying thuja-induced apoptosis of functional p53-expressing mammary epithelial carcinoma cells were elucidated. Cells were treated with Thuja or placebo at potencies of 6C, 30C or 200C at different concentrations (10, 15, 20 and 30 μl/ml) for different time-points (0, 6, 8, 12, 24, 36 and 48 h) to select the optimum time required to kill cells. The results showed that Thuja successfully induced apoptosis in functional p53-expressing mammary epithelial carcinoma cells. Abrogation of intracellular reactive oxygen species (ROS), prevention of p53-activation, knockdown of p53 or inhibition of its functional activity significantly abridged ROS generation. Notably, under these conditions, Thuja-induced breast cancer cell apoptosis was reduced, thereby validating the existence of an ROS-p53 feedback loop. Elucidating this feedback loop revealed bi-phasic ROS generation as a key mediator of Thuja-induced apoptosis. The first phase of ROS was instrumental in ensuring activation of p53 via p38MAPK and its nuclear translocation for transactivation of Bax, which induced a second phase of mitochondrial ROS to construct the ROS-p53 feedback loop. Such molecular crosstalk induced mitochondrial changes: i) to maintain and amplify the Thuja signal in a positive self-regulatory feedback manner; and ii) to promote the mitochondrial death cascade through cytochrome c release and caspase-driven apoptosis.

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# *Spotlight on* Vitamin B6

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## What is Vitamin B6?

Vitamin B6 comprises a group of six essential water-soluble chemical compounds, all containing a pyridine ring as their core. These vitamers are pyridoxal, pyridoxamine, and pyridoxine, along with their 5'-phosphate forms, such as pyridoxal 5'-phosphate, pyridoxamine 5'-phosphate, and pyridoxine 5'-phosphate.

## What are the functions of Vitamin B6?

Vitamin B6 is a versatile nutrient with a diverse range of metabolic, biochemical, and enzymatic functions. Some of these functions include:

- Playing a vital role in energy metabolism.
- Metabolism of carbohydrates, lipids, protein, amino acids, and nucleic acids.
- Synthesis and metabolism of DNA, metabolism of one-carbon units, and serving as a cofactor in the catabolism of tryptophan.
- Involved in neurological development and the synthesis and metabolism of neurotransmitters, such as serotonin, dopamine, glutamate, gamma-aminobutyric acid (GABA), noradrenaline, and adrenaline.
- Synthesis of haem, cell signalling, cell proliferation, trans-sulphuration, and supporting mitochondrial function.
- Anti-inflammatory and antioxidant actions via modulating inflammasome function and activity, regulating inflammatory mediators, and inhibiting the formation of advanced glycation end products (AGEs).
- Vitamin B6 plays various roles in the immune system, including supporting overall immune function, supporting both innate and acquired immunity, and is essential for antibody production.

Additionally, Pyridoxal 5'-phosphate (PLP)-dependent enzymes catalyse over 140 distinct enzymatic reactions and plays an important role in the homocysteine metabolic pathway.

## What health conditions are associated with low Vitamin B6 status?

Prolonged deficiency of vitamin B6 has been associated with the development of a painful axonal peripheral neuropathy, characterised by symptoms such as muscle weakness, reduced reflexes, sensory impairment, and ataxia, particularly affecting the lower limbs. Health conditions associated with low vitamin B6 status include microcytic anaemia, hypochromic microcytic anaemia, anaemia, atherosclerosis, depression, irritability, premenstrual syndrome, confusion, cognitive decline or impairment, increased nerve excitability, carpal tunnel syndrome, cardiovascular disease, homocysteinaemia, type 2 diabetes, alterations in lipid profile, dermatitis, glossitis, weakened immune system, impaired antibody responses, reduced immune function, lymphopaenia, impaired or delayed hypersensitivity reactions, Hashimoto's thyroiditis, inflammatory bowel disease, altered lung function, inflammation, oxidative stress, lipid peroxidation, impaired mobility, and decreased physical performance.

## Are there any adverse effects of Vitamin B6?

Elevated intakes of more than 50 mg of vitamin B6 daily over long periods, from months to years, have been associated with adverse effects. These effects typically present as mild neurological symptoms, including symmetrical and progressive problems with perceiving touch, pin-prick sensations, temperature, vibration, and positional awareness in the limbs. Consuming much higher doses between 500 and 6,000 mg daily over prolonged periods (from several months to years) can lead to neurotoxicity, paraesthesia, hyperesthesia, bone discomfort, muscle weakness, numbness, involuntary rapid muscle twitches, and decreased tendon reflexes. It is unlikely that someone would experience these symptoms under normal circumstances or when under the care of a qualified, accredited health practitioner. Symptoms generally improve and reverse after pyridoxine is stopped.

## Conclusion

Vitamin B6 plays essential roles in numerous physiological and biochemical pathways, including amino acid metabolism, neurotransmitter synthesis, inflammation, immune function, and the regulation of homocysteine. Numerous health conditions are associated with low vitamin B6 status. Vitamin B6 is not something to be feared. Understanding the functions of vitamin B6, the factors affecting vitamin B6 status, along with appropriate dosage ranges and safety considerations, is essential for effective therapeutic use. Always read the label and follow the directions for use. If symptoms persist or if you are unsure, consult a qualified, accredited healthcare practitioner. For more information on vitamin B6, please refer to the original published article in this journal.[1]

### REFERENCE

1. *McEwen B. Exploring Vitamin B6: "The versatile nutrient". Journal of the Australian Traditional-Medicine Society 2025; 31(2): 68-74.*

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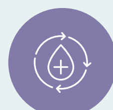

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# Consider *the Palm:*

## Broad, strong, and underutilized in massage therapy

Dr Joe Muscolino

### Key Points

- The palm is a contact point that is strong, flexible, yet soft and somatically intuitive.
- When we angle the palm by supinating or pronating the forearm, we can diminish the size of the palm contact, making it much more specific without being 'pokey' the way thumb and finger pads can be.
- The palm's strength and stability are matched by its comfort because of the surrounding myofascial tissue.

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There are many contact points to use when performing massage therapy, ranging from thumb pads and finger pads as smaller contacts to the larger contacts offered by the elbow and forearm (Figure 1). The advantage of using larger contacts with clients is that the joints are larger and therefore stronger and less vulnerable to injury; larger contacts also cover more surface area of the client's body. However, larger contacts have less sensitivity, and some—like the olecranon process of the elbow and the medial shaft of the ulna—are hard and bony and can be uncomfortable for the client, especially when used in areas where bone is close to skin.

While smaller contact points can also feel pokey to the client when not applied appropriately, and are more prone to injury when used repetitively, the advantage of using these smaller points of contact is that they are the most sensitive and best at assessing the client's tissue texture and tone. They are also better at reaching deeper into tissue. It is for these reasons that I would like us to consider the palm as a strong, flexible, smaller contact point to use with clients during massage therapy.

### Motor Out and Sensory In

There is an old adage in the world of massage that no massage stroke should ever end the way it was originally intended when it began. This means we need to be constantly assessing the response of the client's tissues as we work so we modify the depth and direction of our stroke. This requires not just motor output to create the stroke, but also reception of sensory input as we work—motor out and sensory in. The ability to integrate and balance these two aspects of a massage stroke is greatly dependent on the contact we choose to employ.

### Variations of Using the Palm

Many therapists already use the palm, but I believe there are variations with its use that are not always fully appreciated. And these variations render the palm, in my opinion, perhaps the best contact in massage, and the contact I use the most when working on clients.

Why is the palm such a good contact? It is broad and strong, somewhat like the elbow or forearm, but it's much softer and comfortable for the client due to the cushioning of the myofascial tissue of the thenar and hypothenar eminences. And when we angle the palm by supinating or pronating the forearm, we can diminish the size of the palm contact, making it much more specific without being pokey the way thumb and finger pads can be.

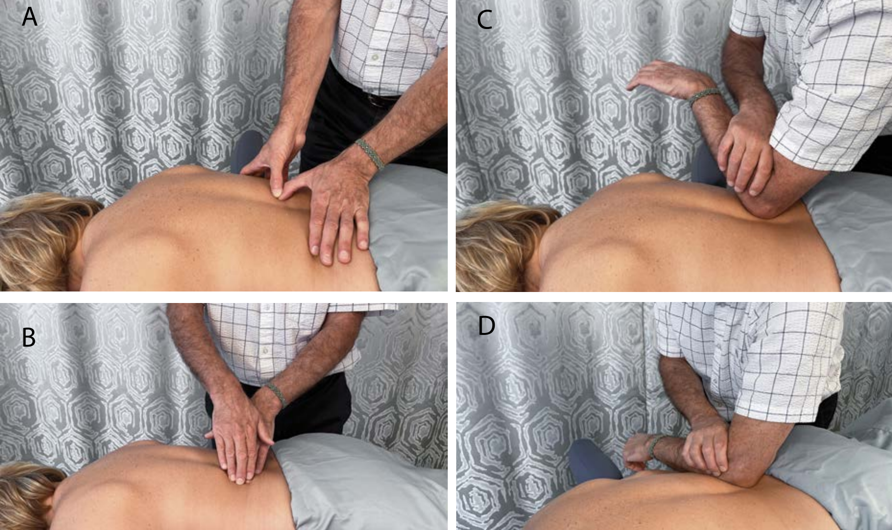



**Figure 1.** Small and large contacts for massage therapy – (A) Thumb pad, (B) Finger pads, (C) Olecranon process of elbow, (D) Ulna of flat forearm

**Figure 2.** Full-flat palm contact (with no brace).

## Additional Contacts

There are a few other contacts that can be used with clients. Two of these are the knuckles and fists. Albeit very stable contacts, knuckles and fists are hard and bony, and if used, they should only be used in areas of the client's body that are fleshy. Using a bony contact over a bony area of the client's body can be extremely uncomfortable for the client. Speaking as a regular client of massage therapy, one of my pet peeves is when a therapist uses a bony contact over a bony area. Ouch!

Feet are another contact used, especially in Asian massage practice. The feet are strong contacts, especially since body weight is also being employed in this practice. The feet are also broad and cushioned, making them comfortable contacts for the client.

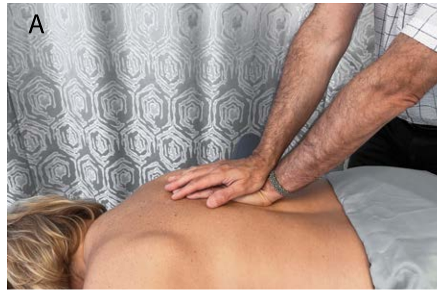
When massage therapy tools are considered, although they may be employed to decrease stress to the practitioner's thumb/finger joints, the trade-off is that they, like bony contacts, tend to be hard, so the choice of where to use them should be strategically integrated into our work. A note of caution: Because we are not directly contacting the client's body when we use massage tools, our ability to sense the response of the client's tissues to our work is diminished.

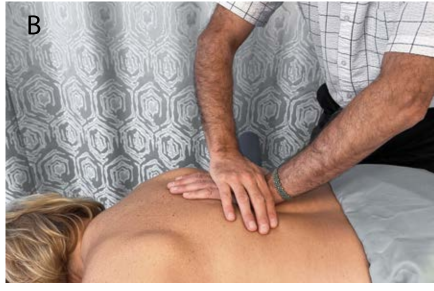
## Full-Flat Palm

When the palm is used in massage, most therapists use the full-flat palm (Figure 2). The full-flat palm is a wonderful contact because, as stated, it is broad, strong, and stable, and covers a large amount of surface area of the client's body; but it's not hard or pokey. And it can be easily braced/supported. Bracing a contact is extremely valuable for good body mechanics that allow for longevity of career. By bracing a contact, we support the structure of the joint, which preserves the fascial tissue of the ligamentous/joint capsule complex, preventing overstretching and injury of the joint. We also decrease compression forces through the contact joint because bracing allows for the physical stress of the stroke to be spread across both upper extremities. In other words, the brace-side upper extremity does not just protect the contact, it also contributes to the force of the stroke.

## Bracing/Supporting the Palm

There are two easy ways to brace a full-flat palm. Figure 3A shows what is likely the most common brace used: the palm of the other hand. This brace works very well when the palm is fully flat. However, it's not as versatile a brace for when we want to orient away from the full-flat palm and angle it to use more of the hypothenar eminence or the thenar eminence.



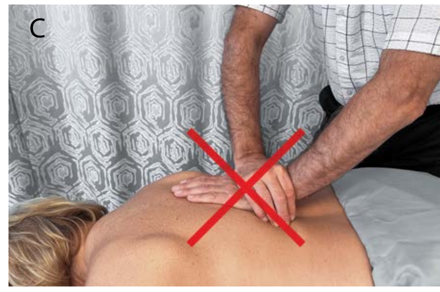



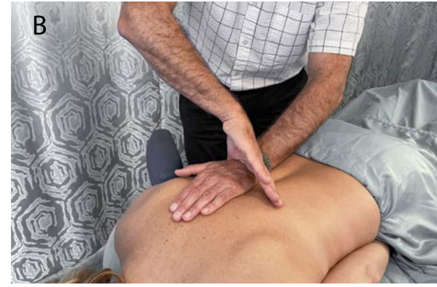

**Figure 3.** Full-flat palm contact with brace – (A) Palm brace, (B) Thumb-web brace, (C) Thumb-web brace incorrectly placed

For full versatility of the palm, I recommend using the thumb-web brace shown in Figure 3B. For the thumb-web brace to be used effectively, the actual web of the thumb needs to be placed directly over the carpal region at the base of the palm where the pressure of the contact hand is contacting the client. Often, therapists will instead brace the contact hand/forearm as seen in Figure 3C, with the ulnar side of the support hand on the dorsum of the contact hand, and the thumb web up high on the distal forearm. This leaves no support to the actual contact region at the base of the palm that meets the client's body.

One way to learn how to effectively employ the thumb-web brace for the full-flat palm is to first place the palm as a contact on the client but exaggerate the ability to see the contact by extending the hand at the wrist joint (Figure 4A). Then, place the thumb-web support directly over the base-of-the-palm contact but exaggerate the position of the support-side upper extremity by pronating the forearm (Figure 4B) so you can better visualize where the thumb web supports the contact hand.

This positioning shown in Figures 4A and 4B is not comfortable or relaxed for the therapist, it is just done to help us better understand the positioning of our hands. So, now let both hands relax as seen in Figure 4C. Comparing this thumb-web brace with the opposite-side palm brace (see Figure 3A), you can see the disadvantage of the thumb-web brace is that the elbow of the brace-side upper extremity is out a bit, which means the brace-side glenohumeral joint is slightly

in medial/internal rotation, which is not the ideal posture for the shoulder joint. However, where the thumb-web brace really shines is how it allows for the versatility of the orientation of the palm as a contact.



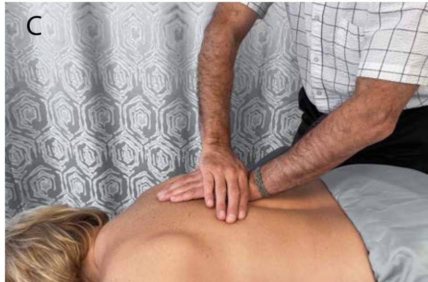




**Figure 4.** (A) Exaggeration of base-of-the-palm contact for full-flat palm, (B) Exaggeration of thumb-web support of base-of-the-palm contact for full-flat palm, (C) Relaxed posture of hands with thumb-web brace for full-flat palm

## Angling the Palm Contact

One of the major advantages of the full-flat palm is that it is broad (Figure 5A). However, this can also be a disadvantage because the contact may be too broad to allow work in certain areas and/or contours of the client's body. An example would be performing a long deep stroke up the client's back along the paraspinal musculature. In the low back, there is plenty of room for the palm to be fully flat. But as we reach the interscapular region (between the scapulae) in the thoracic spine, there is often not enough room between the medial border of the scapula and the spine. Instead of switching to another contact, we can simply supinate the forearm to orient the palm so that we are pressing more on the hypothenar side of the palm instead of the full-flat palm (Figure 5B). This narrows the contact, allowing seamless passage of this stroke through the area to continue to the top of the client's trunk. We still have a strong contact, but one that fits between the scapula and spine. We also can focus the force of our stroke through the pisiform of the hypothenar eminence (Figure 5C).

There is an art to learning to use the pisiform, and it can take time to master, but it is well worth it. The pisiform is a small bone, so it is very specific in its contact and as a round bone it is not pokey for the client. Also, because it is surrounded by the myofascial tissue of the hypothenar eminence, it is padded and even more comfortable for the client and the therapist. We can even transition our contact to be fully on the ulnar side of our hand (Figure 5D). The ulnar-side contact is often referred to in manual and movement therapy as the knife-edge contact.

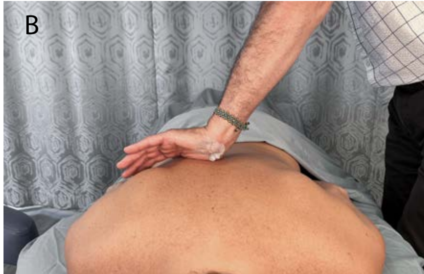



**Figure 6.** (A) Thenar contact, (B) Thenar contact with trapezium/scaphoid-tubercle focus

An alternative orientation of the palm is to instead pronate the forearm to orient the palm toward the thenar eminence (Figure 6A). This also allows for a strong but smaller contact than the full-flat palm. To focus the force of the stroke, we can orient the palm such that we place our force through the tubercles of the trapezium and scaphoid (Figure 6B). Whether it is best to orient toward the thenar eminence or the hypothenar eminence depends on the contour of the client's body we are trying to meet. Most often, the hypothenar side is most advantageous. But the flexibility of being able to seamlessly switch from full-flat palm toward thenar or hypothenar eminence and back, allows for a much greater efficiency of our work.

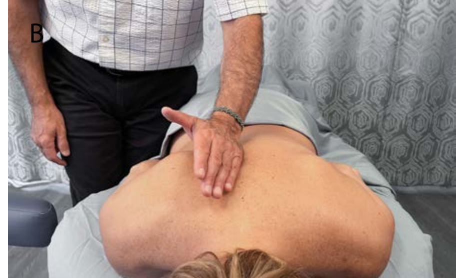
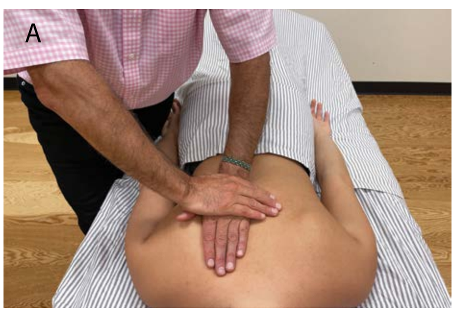


**Figure 5.** (A) Full-flat palm, (B) Hypothenar contact, (C) Hypothenar contact with focus on the pisiform as the contact, (D) Ulnar-side knife-edge contact

### Thumb-Web Brace for Oriented Palm

Orienting the palm for a focused hypothenar, thenar, or ulnar-side contact is where the use of the thumb-web brace shines. Although the opposite-side palm brace (Figure 3A) works very well when employing the full-flat palm as the contact, it does not allow for comfortable changes in the orientation of the palm toward the hypothenar eminence, thenar eminence, or the ulnar side of the hand, whereas the thumb-web brace does allow for transitioning from full-flat palm to these other more focused contacts of the palm (Figure 7). The ability to seamlessly move between these strong, broad, and comfortable contacts, with bracing for both increased strength and efficient body mechanics, can bring orthopedic therapeutic massage to a new level, especially when working with deeper pressure.

THE ABILITY TO SEAMLESSLY MOVE BETWEEN THESE STRONG, BROAD, AND COMFORTABLE CONTACTS, WITH BRACING FOR BOTH INCREASED STRENGTH AND EFFICIENT BODY MECHANICS, CAN BRING ORTHOPEDIC THERAPEUTIC MASSAGE TO A NEW LEVEL, ESPECIALLY WHEN WORKING WITH DEEPER PRESSURE.



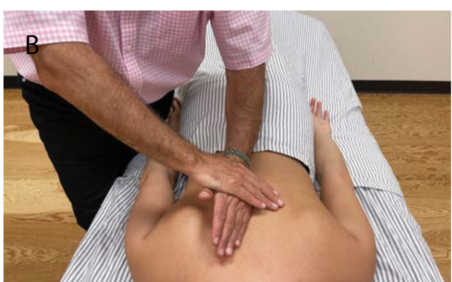


**Figure 7.** Thumb-web brace for contacts of the palm – (A) Full-flat palm, (B) Hypothenar eminence, (C) Ulnar side, (D) Thenar eminence

### Angle of our Forearms

When working with the thumb-web brace for a palm contact (whether it is the full-flat palm or a hypothenar-oriented or thenar-oriented palm), the force for the pressure can be generated from either side of the upper extremity, or both upper extremities. In other words, the brace-side hand can contribute to the force of the stroke. The degree of contribution can vary from adding perhaps 10–20 percent of the force to being 50 percent of the force, to even being the majority or all the force of the stroke. This is important because it allows us to change the angle of our forearms, which in turn

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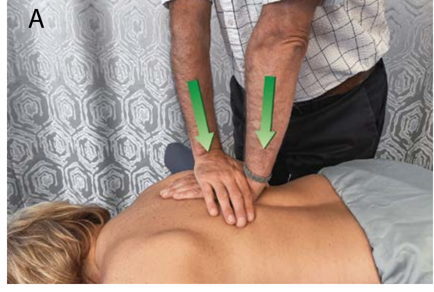


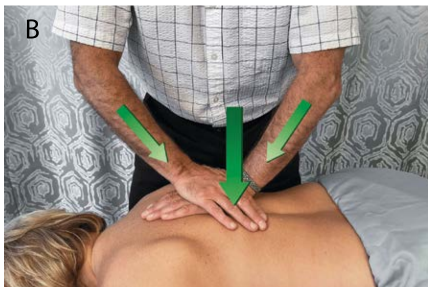


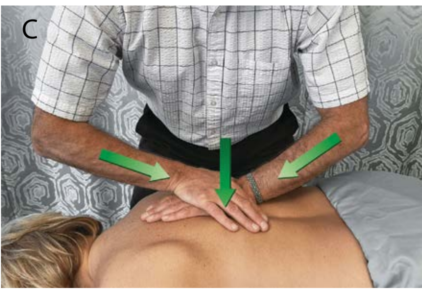


**Figure 8.** (A) Wrist joint in full extension, (B) Forearms angle so that the wrist joints are in less extension, (C) Excessive change in angle of the forearms. Light green arrows represent the force transmitted through the forearm. Dark green arrows represent the resultant force into the client.

changes the angle of our wrist joints. For example, if we have the contact-side hand generate all the force, then if we want to meet the contour of the client's body perpendicularly (which allows for maximal pressure with minimal effort), the angle of the forearms would need to be vertical, which would then require the posture of our wrist joint to be in full or near-full extension (Figure 8A). This could be injurious to the wrist.

If instead, we share the force of the stroke 50/50 between the contact and brace hands, then we can change the angle of our forearms to be less vertical, allowing our wrist joints to be in less extension (Figure 8B). But the resultant force is still vertically downward and perpendicular to the contour of the client's body. We maximize the efficiency of our force, and with a healthier posture to our wrist joints. Of course, we don't want to angle our forearms too horizontally, or we lose the ability to transfer force from our core into the client (Figure 8C).

## Pisiform for Joint Mobilization

Learning to use the pisiform (or trapezium/scaphoid tubercles) as a contact can be especially valuable when performing joint mobilization. It allows for a very specific contact on the bone of the client's body, but also is a strong and stable contact. And it is a comfortable contact because of the cushioning of the surrounding myofascial tissue.

*Author's note: In the world of massage therapy, Grade IV, slow-oscillation joint mobilization is legal and ethical in most states of the US and in Australia. However, no fast thrust should be added to the mobilization. Fast-thrust Grade V joint mobilization is not legal or ethical for massage therapists.*

## Quantity of Strength, Quality of Feel

There are many choices for contact when performing manual therapy. Each contact has advantages and disadvantages. When deciding between smaller and larger contacts, I hope you consider the palm as perhaps the ideal middle-size contact because of the advantages it shares with both smaller and larger contacts. And beyond the consideration of the size of the palm contact, there is also the quality of the feel of the palm as a contact. Its strength and stability are matched by its comfort because of the surrounding myofascial tissue. And when you learn how to change the orientation of the palm to focus toward the hypothenar eminence and its pisiform, or the thenar eminence with its trapezium/scaphoid tubercles, the specificity and efficiency of your work increases multifold. So, consider the palm for its quantity of strength and its quality of feel.

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*Dr Joe Muscolino has been a manual and movement therapy educator for more than 40 years. He is the author of extensive online streaming video content on anatomy, physiology, and kinesiology, as well as assessment and treatment skillsets for manual therapists and movement professionals. He has created a Master Online Curriculum (MOC) for massage and other manual and movement therapy educational institutions. He is the author of multiple textbooks and he teaches continuing education workshops around the world, including a certification in Clinical Orthopedic Manual Therapy (COMT). Visit* ***www.learnmuscules.com*** *for more information, or you can reach him directly at* ***josephe.e.muscolino@gmail.com.***

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# Holistic Tonal Assessment – *A Model for practising Bowen Therapy*

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## Abstract

This article discusses tonal asymmetry as an adaptation to spinal and cranial dysfunction and examines the use of holistic tonal assessment as a tool to guide and prioritise the application of Bowen therapy. The authors introduce the concept of the 'Window of Symmetry' and outline its clinical value in helping to transition patients from a state of dysfunction and adaptation to a phase of global reorganisation and healing. Possible mechanisms of action involving the autonomic nervous system are explored.

## Introduction

The term, Bowen Therapy, is commonly used to describe several interpretations of remedial body work that are based on the methods used by an informally trained Australian osteopath named Thomas Ambrose Bowen[1] (1916-1982). The most simplistic interpretations of Bowen Therapy employ standardised sequences of predetermined 'moves' to elicit a therapeutic response, while more complex interpretations adopt a more patient-specific approach, whereby interventions are informed by clinical assessment.[1]

We argue that the integration of holistic assessment methodologies into Bowen Therapy practice offers considerable potential to individualise treatment and enhance clinical outcomes. To this end, we outline a model of holistic tonal assessment consistent with traditional osteopathic principles and informed by the observation and interpretation of craniospinal dynamics.

## Background

### *The Dura Mater*

The Central Nervous System (CNS), including the brain and the spinal cord, are protected by the bones that make up the skull and the spine. These bony structures are specialised to allow for movement as well as protection. The close relationship between these bony structures and the CNS is mediated and facilitated, in part, by a sensitive connective tissue matrix, which forms a substantial interface between them – a large and extensive fascial structure known as the dura mater.[2-5]

The outermost layer of the meninges, the dura mater is a tough protective covering that surrounds the brain and spinal cord. It provides additional support and protection to the CNS, particularly to protect it from mechanical injury. Anatomically, it is firmly attached to the bones of the cranial base (including the occiput, sphenoid, and temporal bones), to the upper cervical regions (particularly C2 and C3), to the sacrum (around S2), and to the coccyx (via the filum terminale).[2,3,6] Its fascial nature could be described as extensive

and continuous as it merges with the connective tissue sheaths that surround the nerves, muscles, and organs of the body.[3,6,7,8]

Research has shown that the dura is richly innervated and contains free nerve endings that act as nociceptors and mechanoreceptors, enabling it to detect mechanical deformation, including stretching, pressure, or tension within the meningeal layers.[9,10] It has been proposed that these signals can contribute to protective reflexes[2,11,12] which prompt muscle contractions in nearby structures to protect the CNS.

Due to its anatomical attachments and its neural sensitivity, the dura mater acts as a neuromeningeal interface which monitors the position and movement of the various bony structures to which it is attached. It continually communicates this information to the CNS, which responds and adapts accordingly.[2,6,12] It can be inferred that when a Bowen move or procedure affects the position or movement of any osseous site to which the dura mater is attached it may induce a functional response within the CNS.[13]

### The Central Nervous System Sets the Tone

More than a hundred years ago, D.D. Palmer, the founder of chiropractic famously stated, 'Life is the expression of tone. In that sentence is the basic principle of chiropractic'.[14] In his 1927 *Chiropractic Textbook,* Ralph W. Stephenson explored the idea that tension within the dura mater and spinal cord could lead to neurological dysfunction, potentially resulting in various neurological and musculoskeletal symptoms, as well as other health issues.[15] The concept was further developed when the term 'Adverse Mechanical Tension' was formally introduced by neurosurgeon Alf Breig in his 1978 publication *Adverse Mechanical Tension in the Central Nervous System.* In his pioneering work on the biomechanics of the CNS, Breig explored how tension could affect the spinal cord and nerve roots, potentially leading to distant neurological symptoms, and he maintained that the nervous system must be treated as a continuous tract of nervous and supporting tissues.[16]

### Fascial and Neural Continuity

Palmer, Stephenson, and Breig all recognised the extensive fascial and neural continuity provided by the dura mater and they all recognised that restrictions or stress affecting the dura can lead to altered muscle tone elsewhere in the body. These observations form important foundations for numerous schools of chiropractic,[17,18] osteopathy,[19,20] and Bowen therapy,[21] wherein manual therapists assess muscle tone not just locally, but as a reflection of central dural tension.

Biomechanical dysfunction or restriction affecting the sites of dural attachment can generate tensions that spread through the whole dural system.[8,17,18,22] In the context of chiropractic neurology or craniosacral therapy, such a dysfunction would be viewed as a global lesion and could have the potential to affect neurological flow, cerebrospinal fluid dynamics, and the entire body's postural tone.[20,22-25] The basic premise here is a simple one: structural integrity of the musculoskeletal system contributes to optimum function of the CNS. When this is happening, there is likely to be symmetry of tone on either side of the body. When biomechanical disturbance affects any of the sites of dural attachment it can result in the development of asymmetrical tensions on either side of the spine.[23-25] Clinically, these tension states can be observed and traced back to their site of origin.[23-26] In this context, tonal asymmetry becomes a valuable guide to locating and correcting spinal and cranial dysfunction.[21-25,27,28]

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## Holistic Tonal Assessment

Holistic tonal assessment involves a systematic approach to evaluating the expression of neurological tone throughout the body. This process is typically conducted through a combination of tactile palpation and visual observation. At its core, Bowen therapy relies on the palpatory assessment that is embedded within each Bowen move. By palpating resting tension states in significant structures, such as biceps femoris, the paraspinal muscle bundles, and the Achilles tendons, clinicians can identify subtle variations in tone that may reflect underlying dysfunction. In most cases, palpatory findings are supported by visual observation (see Figure 1). Developing proficiency in this form of assessment requires specific training to ensure that structural artefacts do not distort the interpretation of tonal patterns.

The assessment is termed holistic because it conceptualises the body's systems—including the CNS, its meningeal structures, and musculoskeletal components—as an integrated and continuous functional unit. Within this framework, neuromeningeal tension states are understood to be associated with biomechanical disturbances at various dural attachment sites. As such, this method allows for the identification and treatment of dysfunctions not limited to the site of the patient's symptom presentation but extending to remote, interconnected anatomical regions.

Ongoing holistic assessment provides valuable insights into the multifaceted nature of dysfunction, particularly in complex, multi-layered clinical presentations.[25,28] Each identifiable layer of dysfunction is regarded as an adaptive response by the body to preserve the integrity of vital structures. Over time, multiple layers of dysfunction may accumulate, contributing to persistent or chronic symptomatology that may manifest across diverse and seemingly unrelated bodily regions.[8,25,26,28,29]

In relatively uncomplicated presentations involving a single dysfunction site, resolution of the primary lesion typically results in restoration of tonal symmetry. Conversely, in chronic or complex cases, therapeutic intervention at one site may address one layer of dysfunction, allowing another layer to emerge.[12,25] The ability to observe and interpret these transient changes enables the therapist to access deeper, otherwise concealed layers of dysfunction, thereby supporting a more comprehensive, holistic, and effective treatment strategy.[23-26,30-32]

In clinic, real-time holistic tonal assessment allows us to recognise three distinct "modes" for the patient:

1. **Tonal symmetry** – a prevailing state of tonal symmetry is an indication of healthy, balanced neuromeningeal function.

2. **Tonal asymmetry** – tonal asymmetry is an indicator of dural irritation. It represents a systemic neuromusculoskeletal adaptation and compensatory response, typically arising from a sustained state of dysfunction associated with one or more of the dural attachment sites.

3. **The Window of Symmetry** – a temporary state of tonal equilibrium that arises following one or more effective therapeutic interventions. This state may persist for several hours, days, or, in some cases, extend beyond a week. Despite its temporary nature, this phenomenon holds significant clinical relevance for practitioners of complementary manual therapies, such as Bowen therapy (see Figure 1).

We propose the transition from a state of tonal asymmetry to temporary symmetry illustrates a measurable shift in how the CNS is responding to neuromeningeal dysfunction. Although the primary dysfunction may remain unresolved, the emergence of this symmetrical state suggests that the CNS has transitioned from a compensatory mode—focused on adaptation and protection—to an integrative or corrective mode, actively engaging in the resolution of underlying dysfunction.

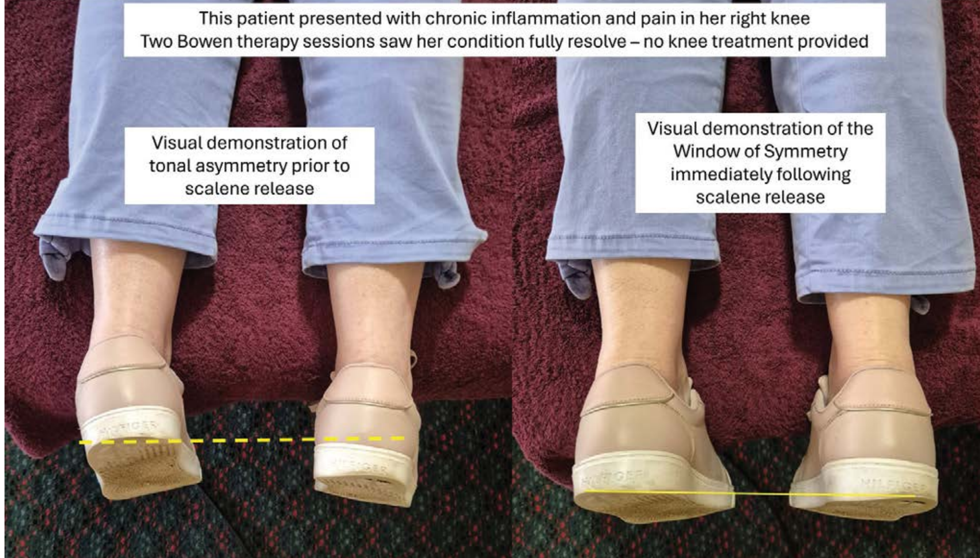


**Figure 1.** A visual demonstration of tonal asymmetry (prior to treatment) and the Window of Symmetry (following treatment). Note: While an image cannot convey tactile findings, in this instance, palpation revealed increased tension in the left Achilles tendon and the left lumbar paraspinal muscles. This tonal asymmetry responded to a right-sided scalene release.

## Clinical Significance of Tonal Assessment

Tonal assessment may provide therapists with real-time feedback that can confirm whether or not their therapeutic interventions are accurately targeting the primary sites of dysfunction. Careful observation allows therapists to evaluate the effect of any given move or procedure, and to see when treatment is effective and complete.[2]

In cases involving multiple sites of dysfunction, the CNS response is based on the perceived hierarchy of threat or stress at any given time.[33] Throughout the course of a treatment, in response to effective intervention, the presentation of tonal asymmetry is expected to change. Once the initial layer of dysfunction has been addressed, additional layers are likely to emerge according to the body's intrinsic prioritisation.[2,18,25] Using holistic tonal assessment as a guide, treatment will always be targeted to the primary source of dural irritation at that time.

In addition to guiding treatment and enhancing clinical outcomes, holistic tonal assessment offers other benefits to the therapist. It enables the early detection and correction of dysfunction states before they become symptomatic. This proactive approach allows therapists to identify and treat subclinical presentations, including subtle dural irritation, and thereby use Bowen therapy to promote function and health.[2,12]

One of the most significant advantages of this process, however, is the opportunity it offers for continuous clinical learning through real-time feedback. For Bowen therapists, it provides valuable insight into the immediate effects of each move or procedure, allowing ongoing evaluation and comparison of effect. This facilitates the refinement and evolution of therapeutic approaches across multiple areas of practice.[2,12,18] Real-time palpatory feedback plays a vital role in enhancing therapists' perceptual acuity and diagnostic capabilities, ultimately contributing to the development of advanced tactile sensitivity.[12,21] For manual therapists, including those practising Bowen therapy, the integration of real-time feedback during patient interactions facilitates continuous professional growth and lifelong clinical development.[2]

## Clinical Significance of the Window of Symmetry

Observation of the Window of Symmetry allows the Bowen therapist to gauge the healing response. It allows us to control therapeutic inputs, to monitor the body's response to those inputs, and to measure the progress of the therapeutic process. It also informs the therapist about the duration of the resulting healing response. and provides valuable information for patient management, particularly regarding the optimal timing for subsequent interventions. This overall understanding empowers practitioners who seek to restore function and facilitate the body's innate capacity for self-regulation and healing.

## Discussion

### *Underlying Principles*

Traditional osteopathic principles embrace a holistic framework, conceptualising the body as an interconnected and unified whole. Central to this perspective is the belief in the body's innate ability to self-regulate and heal, with the practitioner's role being to facilitate this intrinsic capacity.[21,29] These principles are not exclusive to osteopathy; indeed, they are foundational to numerous complementary and alternative health disciplines, including chiropractic, traditional acupuncture, and Bowen therapy. Philosophical alignment with these principles may help explain why Mr Bowen identified himself as an osteopath.[21]

Bowen therapy aligns most closely with these principles when it is guided by holistic tonal assessment and informed by the Window of Symmetry. Within this model, the practitioner is well positioned to support a phase of global reorganisation and healing.


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## Nervous System Response

Bowen therapy acts at an interface between the peripheral and central nervous systems. Although the moves and procedures are applied to somatic tissues, the effects of the input extend, in real time, into the CNS.[13,35,36] For the therapist, this becomes clearly observable when the patient's body enters the Window of Symmetry.

Many schools of manual therapy, including Bowen therapy, claim that treatment helps the body to heal itself by evoking a heightened parasympathetic response.[2,13,18,37] The parasympathetic nervous system is said to have cranio-sacral outflow because its neurons originate in the cranial and sacral regions of the CNS.[2,3] Since the Window of Symmetry is achieved through targeting dysfunction specifically affecting dural attachment sites, we assert that the Window of Symmetry is an indication of a cranio-sacral response.

Building on this interpretation, we propose that the onset of the Window of Symmetry signifies a physiological transition from a prevailing mode of protection to a temporary mode of correction. We hypothesise that this illustrates enhanced parasympathetic activity which supports the ensuing process of restoration and reorganisation. Furthermore, we assert the enhanced parasympathetic response continues to facilitate changes associated with an ongoing healing process for the duration of the Window of Symmetry.

## Conclusion

This article supports the notion that the great majority of symptoms seen in clinic are distant expressions of a central issue, underscoring the importance of a holistic approach to assessment and treatment. When coupled with an understanding of neuromeningeal dynamics, holistic tonal assessment offers a valuable lens to view layers of dysfunction, to target treatment, and to evaluate therapeutic response.

For practitioners of complementary medicine, the goal of treatment is to restore function at key anatomical and physiological sites, thereby supporting and enhancing the body's inherent ability to self-regulate and heal. Holistic tonal assessment and the Window of Symmetry may serve as powerful tools to support this process. We propose that the Window of Symmetry reflects increased parasympathetic nervous system activity, which is closely linked to the body's natural healing mechanisms. As such, it offers visual and tactile confirmation of nervous system modulation, making it an unparalleled indicator for guiding and validating therapeutic interventions.

We hope that the foundational concepts of neuromeningeal dynamics, holistic tonal assessment, and the Window of Symmetry described herein will positively influence the way Bowen therapy is taught and practised.

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# Melatonin: *Mechanisms of action and it's amazing role beyond sleep*

An interiew with Dr Deanna Minich

Dr Deanna Minich is a nutritional scientist, international lecturer, and certified functional medicine practitioner. She has a Master of Science degree in human nutrition and dietetics and has completed her doctorate in the nutritional field. Deanna is the author of six books, including The Rainbow Diet and Whole Detox, and has published more than 50 scientific publications and book chapters. Recently, Deanna published a comprehensive scientific review on melatonin, where she referred to melatonin deficiency as a darkness deficiency. The fx Medicine podcast from which this article is adapted explores the role of melatonin beyond sleep. It was hosted by Dr Adrian Lopresti. This article is published with the kind permission of fx Medicine.

**Deanna:** Melatonin is an indolamine. it looks like a neurotransmitter with an amine group attached to it. What's unique about melatonin is that it's everywhere, absolutely everywhere. In nature it's in animals, in our bodies. We make it through the pineal gland. You were asking, where is it made? There are different types of melatonin in the body, so there is some nuance in regard to its source .

Pineal melatonin is part of the endocrine system. When the pineal gland produces melatonin in response to darkness it is sent systemically to connect to different cells and to basically key into the clock system. That's the form of melatonin that most people are aware of. (The other types of melatonin are the autocrine and paracrine).

The mitochondria are huge producers of melatonin, so every cell type that contains mitochondria would be producing melatonin, which means that all body tissues harbour melatonin. This is because melatonin is amphiphilic: it can live in fatty areas of the body, and it can also live in water compartments, like the blood. So you're going to find it in the eye, the skin, the liver, the kidney, the thyroid, the thymus,  skeletal muscle, and the reproductive system.

**Adrian:** And I read there's about 400 times more melatonin in the gut mucosa than the pineal gland. So, what's the role of melatonin in the gut?

**Deanna:** I don't think we fully understand it, but here's what I see in the science. You're right. There's about 400 times higher concentration in the gut than in the pineal gland, and it's not released in accordance with darkness. So the trigger to produce melatonin is different in the gut. It seems to be produced in response to a meal: there's a postprandial effect. Now, we know that most neurotransmitters are produced in higher amounts in the gut anyway. Melatonin is no exception. We also see that with serotonin, we see it with a number of other neuroactive compounds. But what we think is that it may play a role in gastrointestinal motility.

There are some studies looking at whether or not melatonin is modulating the gut microbiome: modulating secretions in the gastrointestinal tract. And of course, we know that, aside from the GI tract, there's a role for melatonin in the immune system, and 70% of the immune system is actually housed in the gut. So, there might actually be a role right there locally, related to the immune system.

**Adrian:** And is it the microbiota that's making the melatonin? Is that where it's coming from?

**Deanna:** From my understanding, it's more the enterochromaffin cells that are releasing serotonin and melatonin. So it's more the neuroendocrine cell types within the gut, which iswhy you find it pretty much throughout the gastrointestinal tract. I would say it's not limited to the gut microbiome, because you do find it in the esophagus all the way down to the rectum. Therefore, I think it's probably connected to the neuroendocrine fraction, perhaps as it connects to the smooth muscle.

**Adrian:** You also mentioned that it's produced by the mitochondria. Is that then having a role in ATP production and energy production?

**Deanna:** Yes. What we think is happening with the mitochondria is that it's modulating the mitochondria. So, what is the role of the mitochondria? Well, it's the main hub of metabolism. So, oxidative phosphorylation, the metabolic pathway by which cells use enzymes to oxidize nutrients; there's a lot in the way of reactive oxygen species that get produced by that metabolic process. And so it's hard to say exactly what melatonin

is actually doing there, but this is my theory. I think that from an evolutionary perspective, through prokaryotes into membrane-bound eukaryotes, what we see is that melatonin is ancient, it's been around for a really long time. And I think that it became part of the cellular organelle in an antioxidant defence system process. And that's where we most probably need melatonin: within the mitochondria, because of the oxidative bursts, all of the reactive oxygen species. So, I think that just through the fine-tuning of our physiology over time, it just came to be a protective molecule. I think that there's more to unpack there.

**Adrian:** When people think about melatonin, it's associated with sleep. But it sounds like there's a lot more for us to learn about melatonin and its potential role in the body.

**Deanna:** Absolutely. And one of the emerging areas is its role in the glymphatic fluid exchange. This is really piquing my interest. I think of melatonin in six ways. Number one, it's an antioxidant that can flex to water or fat. Number two, it's anti-inflammatory, so that's why it attracted a lot of attention during the pandemic, because it was seen as an agent to quell the cytokine storm. Number three, which I'll go through, is what I find exciting, which is more the neural growth factor effect and its role in mediating the exit of toxic metabolites from the brain into the glymphatic fluid, which is active at night. So that's like a brain detoxification. Number four: some cell biologists are really nerding out into its role in what's called phase separation. And this is not known widely in clinical medicine, but in a cell, viruses, amyloid, just even healthy things, can start to build up autonomously, without a membrane. So, these entities kind of set up a factory, and it looks like melatonin may stop this process. That's why it's being seen as an agent in conditions like dementia. And then, of course there's number five - circadian rhythm, the sleep-wake cycle. And then, finally, there's mitochondrial regulation. So, if melatonin plays a part in all these mechanisms - if it works as an antioxidant, anti-inflammatory, mitochondrial regulator- it must play a role in chronic diseases of various types, extending beyond its known role in sleep.

**Adrian:** I've even seen some work or some literature recently talking about this kind of role, and as an anti-aging agent. Do you think that it plays a role there too?

**Deanna:** Yes, Because of all those things that I've mentioned. If we look at aging as "inflammageing", and recognise that there's a connection to inflammation, to toxic load, to hormone levels, and to antioxidant defence enzymes. People with high glutathione are going to fare better than those with low glutathione. There's even a relationship between melatonin and glutathione. Melatonin is actually five times more potent than glutathione, and it can also help regulate glutathione ,and seems to sync up with it.

What is aging? It's a lot of free radicals. It's an overabundance of oxidative stress. It's inflammation. It's when we don't

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*"White to blue light, notoriously the light of electronic device screens, deters production of melatonin by the pineal gland."*

clean up cells very well, when there's inadequate autophagy. So, melatonin can work on a lot of these different pathways, which is why I think a lot of biohackers, at least that I'm aware of, are really into melatonin. Not for sleep, but for its anti-aging, or healthy aging as I like to say, properties.

**Adrian:** So, does the reverse also apply? If somebody is experiencing increased inflammation or increased oxidative stress, would that lower their melatonin concentrations?

**Deanna:** Theoretically, it should. It's hard to say what's the chicken, what's the egg? Because in so many conditions, where you see low melatonin, already you know that there are inflammation issues with oxidative stress. So, in theory, yes, that would seem to be the case. Think of mood disorders, dementia, pain disorders, certain types of cancer, even type 2 diabetes: they might all have a relationship with melatonin. We see that melatonin plays a role in regulating blood sugar. Other things might also be in play, like migraine, sleep disturbance of course, and many of the neurodegenerative conditions like Parkinson's and any kind of mitochondrial dysregulating conditions.

When we think in functional medicine about root causes, many times there's a number of things going on. And the a trigger can sometimes be a number of different things like toxic load, poor diet, sedentary lifestyle. It's not simple. I don't see melatonin as the panacea: it's not as if you're just going to take a supplement and smooth over and reverse aging and be free of chronic diseases. But I think it's part of the larger picture of overall hormone balance and endocrine health. It's part of a bigger context - physically, emotionally, mentally, and spiritually.

**Adrian:** How do we naturally increase our melatonin?

**Deanna:** I kind of think of it as a pyramid or a triangle. What's at the base? Where can you get the biggest impact from diet and lifestyle? And I would say the base, the foundation is adequate darkness at night. We have to get our light and our darkness right. The problem in our everyday lives is that we live by electricity, which is really great for productivity, but it's really bad for melatonin production. I call artificial light pollution an endocrine disruptor that is societally and globally accepted. The density of light in cities is distorting our ability to make melatonin naturally. Because it is truly the darkness hormone if we're talking about pineal-generated melatonin. So, I think of children, they're on their phones at night, they're scrolling, maybe people are on Kindle reading their books late at night. They're at gyms with artificial lighting or fluorescent lighting. They're at shopping malls, or they're in brightly lit places when in nature the amounts of light we're exposed to are mediated by sunlight and moonlight.

We are in environments during the day that are probably a thousand or more times less bright than outside, and then at night, we reverse that and we make our nighttime environments much more bright than outside. So, the name of the game is to go along with nature's rhythm of light and dark. And that means bright light during the early morning hours. And even that can help to prime nightly melatonin. So: bright light first thing in the morning. Being outside, even if it's a cloudy day, you're still getting full spectrum light. And then when it starts to get dim you need to somehow modify your inner environment. And there are apps for this! I use a free app to measure my indoor light, because there are certain measures of light which would be almost like a safe threshold. You need to know how your light measures up in your environment. The app gives you a numerical value for the ambient lux, which is a measure of light. One lux is equal to a candle flame at a distance of one metre.

There are different light exposure recommendations. If you want to run with the sun and then go into the dark, you need, for 3 hours before bedtime, to be exposed to up to 10 lux maximum. Although that may sound like it's not a lot, I think it's actually quite bright, but in the bedroom or wherever one is sleeping, there should be no more than 1 lux, and ideally zero lux.

Some people have become used to overly bright blue, enriched light, and they don't even know it. Another thing that can help is to wear blue light-blocking glasses at night. There is some science to suggest that that can be very helpful. And, believe it or not, eye colour can mediate your sensitivity to that artificial blue light. I have lightly coloured eyes, green ones. People with green, blue, and light brown eyes will be more sensitive to the effects of artificial blue light at night. So they're going to be more affected and their melatonin suppression will be greater upon exposure to that artificial

blue light than that of somebody with dark brown eyes.

Now, that doesn't mean that dark eyed people shouldn't be attentive to light exposure as well. It's very important that we get our light and darkness exposures right. I think most people have what we called in the article, darkness deficiency. And melatonin and vitamin D, truly in my view are like brother and sister. They work together, they're interrelated. Vitamin D is also considered a hormone.

**Adrian:** What's the app that you are referring to?

**Deanna:** Well, the one I have on my phone is called LightMeter. It's very easy to use. You have to point the camera of your phone as if your eyes were viewing in that direction. When I work in front of a window the lux can be up to 5,000. But if I were working in front of a wall it might be 200.

Another thing, we just are coming off of a full moon. There was a very interesting study carried out in a sleep lab, with no windows, which found that melatonin production was lowest within four days either side of a full moon, perhaps suggesting the role of a lunar rhythm.

There's an idea about individual variation. I would call some people morning larks and others evening owls. There's a chronotype, and everybody's a little different. For an evening chronotype, an option would be to dim the lights, also, to use light sources with more red hues (like our pink salt lamp). White to blue light, notoriously the light of electronic device screens, deters production of melatonin by the pineal gland. So light sources like candlelight, fireplaces, light that is red and not blue, is an option for evenings. If you can't get to that red light, glasses that block blue light are an option. The nature of light entering the eyes is critical. The eyes are what are signalling to the brain to produce melatonin.

**Adrian:** Those glasses can vary quite a lot in price. Does it matter, in terms of price?

**Deanna:** They have all different kinds too. Like one of the ones that I wear during the day just to prevent too much blue light on my retinas. Because the eyes are part of the brain. and the eyes are what are signaling to the brain in order to produce melatonin, so I will wear a pair that has this iridescent look to it, so it's not red but it stops some of that blue light. And then there are other kinds of glasses where they have gradations of colour, like orange as it gets dim and then red for


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when it is later at night, like around 9:00 pm when it's really dark. Some people say that you should wear them like goggles so that you get no light even on the sides. I think that there's a huge range of prices there, and they don't need to be so expensive. I think that for the average person, you can buy a pair of $20-type glasses and be doing yourself good. If you use them with a prescription, that would not be a $20 purchase.

**Adrian:** Apart from light, what else affects melatonin?

**Deanna:** The second thing I think about is just taking care of the diet. Are we eating in an antioxidant, anti-inflammatory, nutrient-dense, colourful rainbow way? Think of how melatonin is made in the body. We need protein. If we just back up biochemically, melatonin is made from serotonin. Serotonin is made from tryptophan. Tryptophan is an essential amino acid, and it's a unique one. It's got a certain structure to it, which makes it interesting from a variety of different cell biology perspectives. But basically in the body, the way that the pineal gland is making that melatonin is by having tryptophan. So if you don't have enough protein in the diet, that's problematic on multiple fronts. From a detoxification front, skeletal muscle, so many things require protein. And I think just keeping a healthy metabolism.

And also there are zeitgebers, time givers, and they help to punctuate our day and give us a sense of rhythm. For example, when we eat breakfast in the morning, that's like punctuating our day. Our endocrine system is being informed that, okay, this is breakfast. So eating is a zeitgeber, and if we're eating late into the night, it kind of disrupts our rhythm. So we hear so much about not eating two to three hours before bedtime. Some people do what's called time-restricted feeding, where they just have an eight-hour window of the day, like from 9:00 to 5:00 that they eat, and then they don't eat after that. Some people shift that a little bit forward and do like a 12:00 to 6:00 or 12:00 to 8:00 depending on their bedtime. But you have to note not just what you're eating, but when you're eating, because that does inform circadian rhythm, and that does inform hormones in the entire endocrine circuit, namely insulin and glucagon, that are tethered into the web of hormones.

So, number one, get your light right. Number two, make sure that you are eating adequate quality protein, adequate plants. Getting the rainbow of different types of foods so that you have copious amounts of antioxidants of all types that would go to different body systems and be protective. One more thing I want to say is about lutein and zeaxanthin, which are two xanthophyll carotenoids found in plant foods, typically the yellow-green kind, that actually embed into the macula of the eye and can help to protect against that artificial blue light exposure.

If you've done everything else, then you can bring in a plant melatonin. And I specifically say a plant melatonin versus a synthetic one. There are articles talking about the manufacturing of these types of synthetic melatonins where you get potentially up to 13 different contaminants, thalidomides and different kinds of compounds that can be formed. My vote is always going to be with plants. Plants, I feel, have an intelligence, and you have other things in there from the plant, not just the melatonin. But melatonin in a plant is the same melatonin that's in our bodies, so they can be used across the board.

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*All the show notes, the full transcript, and other resources from this episode are available on the fx Medicine Education Podcasts website (**https:// www. bioceuticals.com.au/education/ podcasts**).*

Mary Pehachek

### What has kept you practising for 30+ years?

That's a very good question. My practice has had a wide view. Important within that experience has been volunteering to be involved with support groups (rare face-to-face advice given to me by Dorothy Hall to maintain professional identity). Being a clinical educator and facilitating grass roots self-care and wellness retreats has kept me invested. This profile snap was taken after the 2019 bushfires where the Vic/NSW border practitioner community rallied to treat over 100 bushfire-affected Victorian Towong shire locals and emergency service personnel. Organising this one-day event reflected the personal and professional value that the integral element of networking and service has contributed to my continuing to practice.

### What have been the most important changes to natural medicine you have seen during your career?

Important changes have included legislation limiting private health insurance extras - making natural medicine an out-of-pocket expense - and medical healthcare plans incorporating government systems to fund treatment through allied health teams.

Also, education requiring evidence-based treatment protocols and an increasing percentage of modern medicine practitioners embracing and implementing naturopathic concepts.

### How do you envisage natural medicine developing over the next 30 years?

It's a challenge to foresee the future development in any area of our global environment. Numerous factors affect its continuing dynamic flux and impact on health. Questions such as AI involvement, reaching the net zero carbon emissions 2050 goal, and botanical, water and land space availability are unanswerable. Thirty years takes us to 2055. Educating the population on our traditional philosophy of wholistic treatment could be a vector to increase active awareness as to what broadly constitutes sustainable wellness and resilience within the Earth's living species ecology.

### 4. What advice do you have for today's emerging practitioners?

Know your ability to treat. Network. Refer. Educate into the allied health referral system. Do something you've never done before regularly. Visit nature. Maintain balance in body, mind and heart. Stay curious and conscious. Breathe.


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# Studying *Kinesiology*

How do we decide what to balance in an energetic kinesiology session?

**Natalia Gavrilova** | www.kinesiologywithnatalia.com.au

*How do I know what to do with a client?* It's one of the most common questions I hear from kinesiology students and new practitioners — and it's the one I've spent the most time thinking about. When you're studying kinesiology, everything feels clear in the student clinic — each session follows the curriculum, and the focus is set. But once the course ends, reality kicks in. Every person is a tangle of desires and limitations, struggles and ideals, body aches living side by side with emotional pain, past baggage, and fears about the future.

A simple strategy is to ask the client what they want from the session or muscle test for an answer. However, the client may not be able to decide. And muscle monitoring is not always a reliable technique because the practitioner's confusion affects the results. In my experience, deciding what matters most — therapeutic priorities — is often the bulk of the work. That decision alone can take you halfway toward achieving the therapeutic goals. There's no one-size-fits-all formula. In this article, I want to reflect on what helps us decide how to help a client — and why that decision matters as much as the techniques we use. Having awareness of these factors can give you more clarity — not only about what to do, but more importantly, why.

## Why it matters: what guides a kinesiology session

There are two polarities in therapeutic thinking: mind over body and body over mind. In other words, if you're working with a client experiencing depression, do you focus on their biochemistry — or talk to them about their childhood? I'm not suggesting there's one right answer. Both approaches have value. Both are deeply specialised. And kinesiologists, more than many other practitioners, are frequently asked to choose between them — because our modality spans both.

**Mind over body.** This approach aligns with the metaphysical belief that we create our reality with our mind. Neuroscience supports this to some degree: perception is highly subjective. We don't passively receive reality; we edit what we hear and see, forget things that don't fit our current emotional state, and interpret events through the lens of belief and desire. Taken to the extreme, this approach promises that you can think your way to happiness. While there are benefits to this outlook, in practice, it doesn't always deliver on that promise.

**Body over mind.** This is the view that when the body functions well, the mind will settle. And it's often true. Digestive distress, parasites, joint inflammation, poor sleep, and nutritional deficiencies can all put the nervous system on high alert, creating constant anxiety.But not all anxiety has physiological roots. Some clients — especially young, physically healthy ones — experience profound psychological distress stemming from trauma or existential crisis. In these cases, chasing down environmental or immune culprits might miss the point.

Of course, these are polarised examples meant to clarify the extremes. Our real task as practitioners is to find the shades of grey, and choose a starting point tailored to each client. That choice depends not only on your client, but also on your own lens— your beliefs about the body-mind continuum.

## My approach to structuring a kinesiology session

Here, I'd like to share how I personally approach therapeutic decision-making. This is not a universal formula — it's grounded in my values, my training, and my instincts. My style leans toward the mind-over-body end of the spectrum. It's based on three principles:

1. being client-centred,
2. being non-directive, and
3. being relational.

Below are the detailed explanations of what it means.

## Client-centred rather than problem-centred kinesiology approach

I don't see symptoms as existing in isolation from the person experiencing them. And often, the real problem isn't the symptom itself — it's the suffering caused by it. That might sound like splitting hairs, but it's not. There's a profound difference between an event and the experience of that event. The event belongs to shared reality — it can be measured, diagnosed, labelled.

The experience is deeply personal, filtered through the lens of a person's perceptions, beliefs, history, and expectations. Take pain, for example. Two people might have the same injury, but their experiences of it — emotionally, mentally, energetically — can be worlds apart. Just like we all know what 'red' is, but we can't assume we all experience it the same way. Language gives us a shared label, but it doesn't guarantee a shared reality.

Example from my practice: So, when someone comes to see me, I don't just see a condition — I meet a person having a condition. Their focus is often not the clinical facts of what's wrong, but how it feels, what it means, how it limits or frustrates or frightens them. I think of a client who recently came to me after visiting a top neurosurgeon for a complex neurological condition. She didn't question his medical expertise — he knew exactly what he was doing — but she left the consultation feeling invisible, as if her condition was acknowledged, but she wasn't. He addressed the brain pathology, but not the woman living with it. As a kinesiologist, I don't try to compete with a surgeon's understanding of anatomy or pathology — that's not my lane. Yes, I need a solid working knowledge of the body. Advantage of my approach lies in tuning into the person's whole system— their emotions, their energy, their beliefs, their sense of self.

When you're studying kinesiology, it's easy to assume that if a client presents with condition X, you must use the procedure for that condition. But working with the whole person often means the most relevant procedures aren't just those directly linked to the named condition. They're the ones that speak to how the person is experiencing the condition: emotionally, physically, energetically.

In this client's case, the work we did wasn't targeted at her brain, even though her diagnosis was neurological. Yes, I understood the basics of her pathology — but I didn't limit myself to brain-focused procedures. I worked with her emotional state, the physical side effects of surgery, the exhaustion, the sense of disconnection. I supported her in processing fear and frustration, rebuilding her appetite, finding motivation, restoring her sense of self. The condition was real, but the experience of it was so much bigger than just the medical facts. That's where kinesiology can make a meaningful difference — by recognising and responding to the person as a whole.

Multiple issues. I try not to get lost in lists of symptoms. When someone presents with multiple complaints — achy joints, back pain, indigestion, poor sleep — it can feel like you're dealing with four different clients at once: arthritis, lordosis, IBS, and insomnia. It's easy for your mind to scatter, to start mentally lining up protocols and procedures for each separate issue. When I catch myself doing that, I come back to the client. I ask:

- How is she experiencing these conditions?
- What does she believe about them?
- What story is she telling herself — and what story is her body telling us?

That's the moment kinesiology becomes something more than a body-focused method. It becomes an enquiry — into experience, emotion, belief, and relationship, into the way a symptom shapes someone's inner world, and the way their inner world, in turn, shapes their symptoms.

## Non-directive rather than authoritative relating to kinesiology clients

In my practice, observation and listening take centre stage. I try not to come in with a set agenda, because when I do, my attention starts tracking the session like a train on rails: are we getting to where I planned? That mindset closes off spontaneity and the ability to listen without judgement or expectations. The more directive I become, the less room there is for the client's voice. The session risks becoming something I do to clients, rather than with them.

Being non-directive doesn't mean being unprepared — it means being prepared for multiple possibilities. I let the client show me where they want to go. Whether they're decisive or hesitant, articulate or shy, those traits inform how we work. Some clients want a firm hand; others want to lead. I adjust my level of guidance based on their personality and preferences. It's not a default — it's a negotiated dynamic calibrated for best effect.

This is where the distinction between non-directive and authoritative becomes especially relevant. An authoritative approach is when the practitioner takes the lead — giving specific instructions, advising the client on how to improve their life, and directing the course of the therapeutic process. This style is absolutely appropriate for many highly specialised modalities, where healing depends on expert knowledge the client may not have.

But the central principle of kinesiology is different: it's a client-led experience. It starts with the idea that each person already holds the insight and capacity to find their unique point of balance — physically, emotionally, and energetically. I see my role as supporting that process, not directing it. I believe the client is the true authority in their own life, and I try to align my professional approach with that principle as closely as I can.

**After session practices.** That said, there's a fine line between supporting and steering. For example, giving clients 'homework' — like meditations or self-awareness exercises — can easily slip into giving advice, which shifts the dynamic toward a more directive style. And while these take-home tools aren't inherently bad (some people genuinely like them), I believe they should be offered sparingly and intentionally. Sometimes, a small practice helps sustain the connection with the session and gives the healing process space to deepen. Other times, it can feel like just another task — or worse, imply that the client isn't already whole.

Learning to sense when support is truly helpful and when it becomes noise is part

of the art. It's one of the ways I adjust the level of 'directiveness' depending on each client's needs, preferences, and readiness. For example, when I give clients flower essence affirmations, I always ask whether the words resonate with them — and whether they'd like to take the printout home. If I skip that step, it can subtly suggest that the success of the treatment depends on their completing something they don't relate to, simply for the sake of compliance. It shifts the focus away from the client listening inward and becoming aware of their own feelings — and toward performing a ritual that may feel empty.

That shift matters. It's the difference between helping someone deepen their connection to themselves and asking them to act out something that doesn't quite fit. In the end, my work isn't about directing someone's healing — it's about holding a space where their own clarity can emerge. The less I arrive with an agenda, the more room there is for their unique process to unfold. That's what makes each session not just effective, but deeply human.

## Relational therapy - The Client is the Map

When we're alone, we can imagine ourselves to be anything. We can believe we're endlessly patient, unshakably kind, generous, wise. Nothing's challenging that self-image. But as soon as we're in relationship — with a partner, a colleague, a child, a parent — the truth starts to leak out. Our blind spots show. Our patterns activate. The way we relate tells the real story. That's why I see the therapeutic relationship not just as a frame for the work, but as the work itself. People are relational beings — we can't feel fully real in isolation. And in the presence of another, especially in a safe and attentive space, something meaningful begins to unfold.

It's hard to feel our own boundaries, contradictions, or stuck places until someone else is there — listening, reflecting, staying with us. That's when the edges appear. And as therapists, we can learn a lot by simply observing how clients show up in relationship: how they talk about themselves, how they respond to being seen, how they navigate closeness and distance.

The therapeutic relationship is unlike family, friendship, or romance — and yet it shares something essential with all of them: it's a human-to-human connection. And when it's grounded in safety, presence, and curiosity, it can become a space for profound healing. After all, trauma doesn't float in a vacuum. It often originates in relationship — in disconnection, neglect, or betrayal, so it makes sense that healing, too, must happen in relationship. We may not always find it in our everyday lives — not everyone has the luck of stumbling into a naturally therapeutic friendship or partnership. But in a clinical setting, the therapeutic relationship can be intentionally designed to offer what was missing: steadiness, respect, responsiveness, care.

I often find that the dynamics between me and my client reveal more than any intake form - not because I'm psychoanalysing them, but because I'm listening relationally. I'm attuned not just to what they say, but to how it feels to sit with them. The shifts, the hesitations, the openings. Understanding pathology has its place, of course — but for me, it sits within a larger field: the relational field. That's the background in which everything else becomes meaningful. Whether or not I name it out loud, it's always there, shaping the work.

## Different Approaches, Different Priorities

### *From studying kinesiology to practising kinesiology*

As I said earlier — this is just my approach. There are many valid paths. The diversity of styles and perspectives is part of what makes kinesiology such a rich and evolving field. So rather than offering a template, I offer a reflection:

Where will you begin? At the body end of the spectrum? The mind end? Or somewhere in between?

**If your lens is more body-first:**

1. Identify the physical issue.
2. Understand the physiology.
3. Choose the appropriate procedure.
4. Follow the treatment protocol consistently.

**If your lens is more mind-first:**

1. Understand the person, not just the condition.
2. Meet them where they are.
3. Choose a procedure that fits this moment.
4. Stay consistent in relationship, even when the techniques shift.

This is where a practitioner must zoom in and ask: *What exactly is my role with this client? What am I offering?*

Some kinesiologists also practise herbalism, naturopathy, or have deep knowledge of hormonal systems. Their sessions might revolve more around the physical or biochemical needs of the body. Others might focus more on emotional processing, belief systems, or life transitions. Both approaches can be deeply supportive — but knowing clearly in what way you're helping makes a difference. It makes the session more focused. It builds confidence. It also makes it easier to choose procedures that are genuinely relevant, not just theoretically correct. Instead of defaulting to 'what the issue requires', you're guided by a deeper understanding of what your presence is offering. That clarity, in itself, is therapeutic.

## So, how do I choose what to do? Studying kinesiology process

We've covered the principles — but what about the moment you're sitting across from your client, unsure what to do next? Here are some questions to explore:

What kind of practitioner are you becoming? Are you drawn to symptoms, systems, or people? Some practitioners come to kinesiology from other fields — nutrition, bodywork, counselling. Their style builds on that foundation. Others are new, still finding their voice.

Ask yourself what originally drew you to this work. That clue points toward your unique style. There's no wrong answer — but knowing your orientation gives you stability.

Don't rush the process — get to know your client. Therapeutic curiosity and relational awareness Trust builds over time. There is no wasted time —thats the therapy. Whether you're exploring the interrelatedness of symptoms through physiology, or focusing more on emotional than physical issues, you need time to get to know your client. Expecting a one-session miracle sets you up for frustration. If, like me, you work in a relational style, ask yourself:

- How do I feel around this person?
- What's happening between us?
- What is this person showing me about how they relate to me?

Notice these are not questions about your client — they are about you. Your client isn't an object to analyse, but a person to relate to. To truly relate, you need to know yourself — so you can tell what belongs to you, and what belongs to them. Who we are shapes what we notice. Their effect on you is not a distraction — it's a source of valuable information about both them and yourself. The relationship is the mirror. When distortion shows up, that's where we can spot the 'glitch in the matrix' — a moment of inauthenticity, a block to connection. And that's often where the real work begins.

## When symptoms compete for attention. How to choose client priorities in an energetic kinesiology session

Clients often present with multiple issues: reflux, back pain, conflict with Mum. So where do you start? If you're body-oriented, you might begin by analysing homeostatic processes. The body is constantly scanning for imbalance, sending that information to central regulators (like the hypothalamus and pituitary gland), and issuing corrective signals in response. That feedback loop is what maintains internal stability. Your job is to hypothesise where the breakdown begins, and how the imbalance flows through the system. What's the first domino to fall? What's the chain of command?

Ask yourself what originally drew you to this work. That clue points toward your unique style. If you work more in the relational or emotional field, your attention might go to the dynamics of interaction. What does your client seem eager to show? What are they hiding? And if they can't name a priority — don't guess. Feel. Ask yourself:

- What's showing up most strongly in the session today?
- Is this more physical, emotional, mental, or spiritual?
- What's happening between us right now?

## From procedure to presence

Kinesiology is powerful — not just because of its techniques, but because it taps into the intelligence of the client's subconscious. At its heart, it's about the quality of the therapeutic relationship and your ability to stay present with the unknown until something meaningful emerges. That's why it's important not to assume that using the 'right' procedure automatically leads to effective results — or that more information always brings deeper change. The real catalyst — the thing that turns a technique into healing, and insight into transformation — is the synergy between practitioner and client.

In the end, it's not about choosing the perfect protocol. It's about making a real difference. We live in an age overflowing with advice, how-to videos, and expert content. What's in short supply is sincere human connection. Presence. Touch. These, I believe, are what make kinesiology not only unique — but profoundly effective.

## Practising the art of not-knowing

In energetic kinesiology, the real skill lies in staying open and present—listening without jumping to fix, trusting the body's own intelligence, and navigating complexity without clinging to protocol. In my experience, the question of *'what to do with the client'* doesn't go away. I redefine it for myself at every stage of my professional development and every time when my relationship with a client enters a new phase. When we shift from directing change to discovering it alongside the client, kinesiology becomes not just a modality—but a practice of relational presence. And that question that won't leave us alone. It becomes our best teacher.

WHITE PAPER

# The Australian Health *Regulatory Framework*

Understanding how regulation shapes the future of natural medicine.

## 1. Introduction

Australia's health regulatory framework protects public health and safety by ensuring healthcare practitioners, services, and products adhere to the highest professional standards. Understanding the regulatory landscape is key to practising responsibly and legally for both registered and self-regulated practitioners.

This white paper explores:

- The National Registration and Accreditation Scheme (NRAS)
- The functions of key national regulators: AHPRA, TGA, ACCC, and NHMRC
- The responsibilities of self-regulated professions and how ATMS supports and governs these practitioners

With this knowledge, ATMS members will be equipped to maintain best practice, meet legal and ethical obligations, and deliver consistent, client-centred care.

## 2. Historical Background of the National Law

### *2.1 Fragmented Regulation Before 2010*

Prior to the introduction of a unified system, healthcare practitioner regulation in Australia was managed independently by each state and territory. This decentralised approach led to inconsistent standards, duplication of effort, and a lack of mobility for health professionals. With over 85 separate registration boards in place, public safety and practitioner accountability were variable.

### *2.2 The Birth of National Regulation*

In response to these challenges, the Council of Australian Governments (COAG) endorsed the creation of a single national scheme. The result was the Health Practitioner Regulation National Law (the National Law), enacted in 2010, which introduced the National Registration and Accreditation Scheme (NRAS).

NRAS established a uniform framework for registering practitioners, accrediting training programs, setting standards, and handling complaints and disciplinary actions. The scheme promotes consistency, transparency, and accountability in health practitioner regulation across all jurisdictions.

### *2.3 Expansion of Regulated Professions*

NRAS originally covered 12 professions. By 2025, 16 health professions are regulated through 15 National Boards, supported by the Australian Health Practitioner Regulation Agency (AHPRA):

- Chiropractic
- Dental practitioners (incl. hygienists, prosthetists, therapists) Medical practitioners
- Nurses and midwives
- Optometrists
- Osteopaths
- Pharmacists
- Physiotherapists
- Podiatrists
- Psychologists
- Aboriginal and Torres Strait Islander health practitioners
- Chinese medicine practitioners
- Medical radiation practitioners
  Occupational therapists
- Paramedics

All regulated practitioners must meet mandatory requirements for education, ethical conduct, and continuing professional development.

Under the National Law, a profession is only included in the AHPRA-regulated scheme if it meets specific criteria, most importantly, that the profession poses a demonstrable risk of harm to the public if not regulated. This public health risk threshold is used to justify the need for statutory oversight. While many professions fall outside this scope, it does not mean they are risk- free. Instead, it places greater importance on self-regulation, ethical codes, and consumer protections, particularly for practitioners in the natural medicine sector.

## 3. Key Regulatory Bodies in Australia's Health System

The regulation of Australia's healthcare sector is a shared responsibility, involving several key agencies. These bodies collectively ensure that healthcare professionals and products meet national safety and efficacy standards.

### *3.1 Australian Health Practitioner Regulation Agency (AHPRA)*

AHPRA oversees practitioner registration and enforces standards set by the National Boards. It ensures that registered practitioners are qualified, ethical, and competent.

*Our vision is a healthcare system where every qualified traditional medicine practitioner, whether self-regulated or registered, is respected, accountable, and empowered to deliver safe, high-quality care.”* — Annie Gibbins, CEO, ATMS

Key Responsibilities:

- Registration and renewal
- Enforcement of professional standards
- Investigation of complaints and misconduct

### 3.2 Therapeutic Goods Administration (TGA)

The TGA is part of the Department of Health and is responsible for regulating medicines, medical devices, and complementary healthcare products.

Key Responsibilities:

- Pre-market assessment and approval
- Post-market surveillance and safety alerts
- Enforcement of regulatory compliance

### 3.3 Australian Competition and Consumer Commission (ACCC)

The ACCC monitors health-related advertising and ensures businesses comply with consumer law.

Key Responsibilities:

- Preventing misleading health product claims
- Enforcing the Australian Consumer Law (ACL)
- Supporting informed consumer choice

### 3.4 National Health and Medical Research Council (NHMRC)

The NHMRC supports health research and provides national evidence-based guidelines for practitioners and policymakers.

Key Responsibilities:

- Granting research funding
- Issuing clinical practice guidelines
- Shaping national health strategies

## 4. Self-Regulated Professions and the Role of ATMS

### 4.1 The National Code for Unregulated Professions

Many healthcare professions not covered under NRAS are self- regulated. These practitioners are bound by the National Code of Conduct for Healthcare Workers, which sets baseline standards for safe and ethical care.

Implementation Status (as of July 2025):

- Enacted: NSW, QLD, VIC, SA, ACT, WA,
- Passed but pending proclamation: TAS (2024) Not yet enacted: NT

### 4.2 ATMS and the Importance of Self-Regulation

The Australian Traditional Medicine Society (ATMS) represents practitioners across a diverse range of modalities. Some are AHPRA-registered; others operate under self-regulation, governed by ATMS' stringent Code of Conduct and ethical requirements.

ATMS-supported modalities include:

- Acupuncture (AHPRA-regulated)
- Aromatherapy
- Ayurvedic Medicine
- Bowen Therapy
- Chinese Herbal Medicine (AHPRA-regulated)
- Chinese Massage
- Counselling
- Chiropractic (AHPRA-regulated)
- Herbal Medicine
- Homeopathy
- Hypnotherapy
- Kinesiology
- Myotherapy
- Naturopathy
- Nutrition
- Osteopathy (AHPRA-regulated)
- Reflexology
- Massage Therapy
- Remedial Massage
- Shiatsu
- Thai Massage

ATMS ensures all members, regardless of regulatory status, practise safely, ethically, and professionally. Members are required to undertake CPD, hold current insurance, and adhere to clinical and professional standards.

### 4.3 ATMS Code of Conduct

The ATMS Code of Conduct aligns with national expectations and mandates a high standard of care.

Key Principles:

- Safe & Ethical Practice – Practice within scope and competence.
- Infectious Conditions – Modify or pause care when unwell.
- No False Claims – No unsubstantiated or misleading therapeutic claims.
- Infection Control – Maintain hygiene and follow regulations.
- Respect for Other Practitioners – Promote collaborative care.
- Fitness to Practice – Avoid impairment from substances or illness. No Financial Exploitation – Ethical billing and service delivery.
- Evidence-Based Practice – Treatment must have clinical justification. Transparency – Be honest about qualifications and services.
- Professional Boundaries – Avoid personal relationships with clients. Accurate Record Keeping – Maintain complete and secure notes.
- Professional Insurance – Maintain appropriate indemnity coverage. Privacy Protection – Comply with relevant privacy laws.
- Public Display – Display the Code and complaint processes in clinic and online.

This Code safeguards clients, protects the reputation of the profession, and demonstrates the leadership of ATMS in upholding national standards.

## 5. Conclusion

Australia's health regulatory framework is designed to protect patients, guide professional behaviour, and ensure the delivery of high-quality, ethical healthcare.

ATMS plays a vital role in representing self-regulated professions and ensuring its members uphold nationally recognised standards. Through active self-regulation, professional development, and a robust Code of Conduct, ATMS members continue to deliver trusted care within an evolving healthcare landscape.

Understanding this framework empowers ATMS practitioners to remain compliant, credible, and confident contributors to Australia's healthcare future.

# Changes to laws *from 1 July 2025*

**Ingrid Pagura** | BA, LIB

As with most years, the new financial year sees a number of changes occurring. This means that you, as an employer, will need to update some of your workplace procedures.

## Superannuation Guarantee

From 1 July the Superannuation Guarantee percentage has increased from 11.5% to 12% of ordinary time earnings. You are required to pay super contributions when an employee is over 18 years of age, or if under 18 years, if they are working over 30 hours a week. This now applies to all full-time, part-time and casual employees.

As an employer you must pay superannuation at least every 3 months into the employee's nominated account.

Since last year, superannuation has been included in the National Employment Standards (NES). The NES entitlement to superannuation aligns with superannuation laws, so if an employer complies with the superannuation guarantee they will also meet their obligations under the NES. The NES don't apply to everyone, but to those employees who are part of the national workplace relations system (Fair Work) or who reside in New South Wales, South Australia, Queensland, Tasmania or Victoria.

Please note that you usually aren't required to make superannuation contributions for contractors who are working for you. As small business owners they bear their own responsibilities. It is always best to check your responsibilities for superannuation payments at **www.ato.gov.au.**

## Minimum Wage Increase

Also, from 1 July there is a 3.5% increase to the national minimum wage and all modern awards. This increase took effect from the first full pay cycle after that date. Update your payroll system to include the new rate. There is a lot of useful information in the Pay and Wages section of the **www.fairwork.gov.au** website, so take some time to have a look.

## Right to Disconnect

The Right to Disconnect legislation is now in force for small businesses from 26 August 2025. A small business is classified as one with 15 or fewer workers. The right to disconnect refers to a worker's being able to ignore a contact from an employer outside work hours. This includes contact from third parties, for example, clients.

This doesn't mean that an employer can never contact a worker out of work hours. They may do so, for example, in relation to covering a shift, to a roster issue, or in an emergency, so long as such contact is reasonable within the worker's circumstances. Workers who are on call do not have access to this new right. What is deemed reasonable must take into account each worker's circumstances, for example, whether they care for young children or elderly parents.

**What should you do?**

- Review your current contact methods and make sure they are still reasonable,
- Educate managers and supervisors about reasonable contact,
- Have a policy in place that covers contact outside work hours and make sure you implement it, and
- Check and update all contracts of employment to include a statement about contact outside work hours.

## It's Tax Time

It's time to lodge tax returns for another year. The ATO has useful tips on preparing your returns. Please see the Businesses and Organisations section of the ATO at **www.ato.gov.au.**

Some of the common tips they promote for businesses are:

- Use digital tools and business software. This helps you streamline processes and spend less time on administration.
- Keep good records. This ensures you have the right information and avoid mistakes. It also means that you won't forget about some of those deductions you want to claim.
- Get advice from trusted sources, like your tax professional or the ATO website. Don't rely on a friend of a friend for your tax advice.
- Set aside GST, pay as you go (PAYG) withholding and superannuation from your cash flow, so you have the funds available when it's time to lodge and pay. There will be less of a panic.

# CALL FOR PRESENTATION ABSTRACTS
# 2025 ATMS ANNUAL CONFERENCE

We are pleased to announce that abstract submissions for oral presentations at the ATMS Annual Conference are now open. You are invited to submit an abstract for review and possible presentation at the **ATMS Annual Conference in Sydney on Saturday 8th November.**
All abstract submissions should align with one or more of the ATMS-accredited modalities (https://www.atms.com.au/about/modalities/). The oral presentation duration is 15 minutes.

## WHAT IS A CONFERENCE ABSTRACT?

A conference abstract is a brief, clearly written summary of the specific ideas or concepts to be presented at the conference. It can describe traditional academic research or practice-based research.

## THE REVIEW PROCESS

Before being accepted for an oral presentation, abstracts are peer-reviewed by a committee consisting of conference organisers and reviewers. Abstracts will be considered based on the quality of the submission in terms of its relevance to an ATMS-accredited modality, focus and clarity, and its originality.

## PUBLICATION AND AWARDS

All abstracts submitted and accepted for oral presentations will be published in the online ATMS Conference Abstracts Book. Full papers may be submitted to the Editor, Journal of the Australian Traditional Medicine Society, for consideration of publication in the Journal of the Australian Traditional Medicine Society. Additionally, all oral presentations will be considered for the Best Oral Presentation Award.

## ABSTRACT SUBMISSION GUIDELINES

All abstracts are to be submitted through the online submission form via the following link:
**https://www.atms.com.au/submit-your-abstract/**

All abstracts and presentations must be submitted in English.

- Abstract title to be a maximum of 20 words.
- Abstracts have a maximum of 300 words.
- Presenting Author name and contact details.
- Presenting Author biography is to be a maximum of 150 words.

Submit your abstract by **Friday, 20 September 2025, 5 pm AEST.**

Please note that any abstracts submitted after this date will not be accepted for the conference.

## Acupuncture and TCM

***Tang YN, Bai YF, Dong A, Rao QL, Wu HH, Wang CG, Xu YT.*** **Antidepressant effects of total phenols and total saponins of Kai-Xin-San mediated by synaptic plasticity induced by BDNF/TrkB/Akt pathway.** J Ethnopharmacol. 2025; 353(Pt B):120423. doi: 10.1016/j.jep.2025.120423.


**Ethnopharmacological relevance:** Kai-Xin-San (KXS) is a classic prescription for treating affective disorders in traditional Chinese medicine (TCM) over millennium. Although antidepressant effects of KXS have been demonstrated in both clinical and preclinical studies, antidepressant constituents and action mechanisms of KXS remain unclear.

**Aim of the study:** To reveal antidepressant constituents and action mechanisms of KXS using the method of "fraction-spectrum-effect-mechanism".

**Materials and methods:** Homologous fractions of KXS were isolated through solvent extraction combined with macroporous resin chromatography methods. The quantification of the fractions was performed using chemical chromogenic methods. Antidepressant effects of the homologous fractions were assessed using tail suspension test (TST), forced swimming test (FST) and open field test (OFT) in mice. Two major fractions of total phenols (TP) and total saponins (TS) were chosen for further studies. The constituents of TP and TS were identified using UPLC-Q-Exactive Orbitrap-MS (UPLC-MS) method, and their antidepressant effects were verified on chronic restraint stress (CRS) model in mice by behavioral evaluations including sucrose preference test (SPT), TST, FST and OFT. Network pharmacology was used to predict antidepressant mechanisms of TP and TS based on the homologous constituents determined in UPLC-MS analysis. Proteomic analyses were undertaken with tissues of hippocampus (HP) and prefrontal cortex (PFC) in CRS mice treated by TP and TS. Western blot (WB) was employed to verify the findings in network pharmacology and proteomic analyses.

**Results:** Five homologous fractions of essential oils (EO), TP, TS, oligosaccharides (OL) and polysaccharides (PO) were isolated from KXS with homologous contents exceeding 50 %. Results of TST and FST indicated that all the five fractions significantly decreased the immobility time of mice, while OFT results exhibited that their locomotor activities remained unchanged. A total of 50 constituents and 114 constituents were identified in the TP and TS, respectively. CRS tests demonstrated that both TP and TS significantly increased the percent of sucrose consumption and decreased the immobility time in the TST and FST, without affecting their locomotor activities. Results of both network pharmacology and proteomic analyses primarily pointed to similar contents highly related to depression. GO analysis on TP and TS principally enriched in synaptic structures and functions, as well as neural metabolic and gene expression processes. KEGG analysis on TP and TS principally enriched in pathways of neurodegeneration-multiple diseases, as well as neurotrophin signaling pathway in HP and PFC. Results of WB verified that TP and TS significantly reversed the decrease in signature proteins of synaptic plasticity including presynaptic SYN1, postsynaptic PSD95 and GRIA1, as well as the underlying mechanism of BDNF/TrkB/Akt pathway in the HP and PFC induced by CRS.

**Conclusion:** This is the first study on antidepressant constituents and action mechanisms of KXS guided by the method of "fraction-spectrum-effect-mechanism". Albeit the findings are still preliminary, it provides an example in methodology for unraveling the complicated chemical system and action mechanisms of TCM prescriptions.


***Thompson-Lastad A, Wennik J, Swedlow P, Wu J, Hartogensis W, Jackson JLN, Chao MT.*** **Group-Based Integrative Pain Management: Feasibility of a Factorial Randomized Trial in Safety-Net Primary Care.** J Prim Care Community Health. 2025;16:21501319251360113. doi: 10.1177/21501319251360113. 2025. PMID: 40817732.


**Purpose:** This pilot study tested the feasibility and acceptability of a pragmatic randomized trial evaluating group-based non-pharmacologic approaches to increase access in primary care and improve pain-related outcomes.

**Methods:** This 2 × 2 factorial trial assessed two 12-week interventions: group acupuncture and integrative group medical visits (IGMVs). Adults with chronic pain lasting ≥3 months were enrolled from safety-net primary care clinics. Participants were randomized to group acupuncture, IGMVs, both, or neither (usual care). We analyzed data using linear mixed models, ANCOVA, and abductive qualitative analysis.

**Results:** Overall, 44 participants were randomized (25 English-speaking and 19 Spanish-speaking); 59% were female (mean age = 55 years), 21% African American or Black, 52% Latine, 21% non-Latine White, and 5% more than 1 race; and 78% had annual income <$25 000. At baseline, the average duration of chronic pain was 13.0 years, and the mean pain impact score was 36.0 (SD = 6.4). Participants randomized to interventions attended 6 of 12 sessions on average; 89% would participate again; and 86% reported clinically relevant pain improvements versus 20% in usual care ($P < .001$). Qualitative data revealed substantial barriers to accessing multimodal care and social benefits of group-based models.

**Conclusion:** Group-based integrative pain management is feasible and acceptable when co-located within safety-net primary care.


**Clinicaltrials.gov Registration Number:** NCT05906784 (http://clinicaltrials.gov/study/NCT05906784).

*Jinglei J, Tao YU, Yulin Q, Meng W.* **Understanding the role of microglia in Alzheimer's disease: insights into mechanisms, acupuncture, and potential therapeutic targets.** J Tradit Chin Med. 2025; 45(4):922-936. doi: 10.19852/j.cnki.jtcm.20250327.002. PMID: 40810239; PMCID: PMC12340599.

Microglia (MG) are immune effector cells in the central nervous system (CNS) and play a pivotal role in the pathogenesis of various CNS diseases. Alzheimer's disease (AD) is defined as a severe chronic degenerative neurological disease in humans. The amyloid cascade hypothesis is a hypothesis on the pathogenesis of AD that suggests that abnormal extracellular aggregation of β-amyloid (Aβ) peptides is the main cause of the disease. Although this hypothesis has been found to be convincing, a growing body of evidence suggests that it does not fully explain the pathogenesis of AD. Neuroinflammation is a crucial element in the pathogenesis of AD, as evidenced by elevated levels of inflammatory markers and the identification of AD risk genes associated with innate immune function. This paper will first summarize the impact of microglia-mediated neuroinflammation on AD, exploring the phenotypic changes that follow microglia activation. Secondly, the interactions between microglia, Aβ, microtubule-associated protein, apolipoprotein E and neurons are thoroughly investigated, with particular focus on the interactive mechanisms. Furthermore, the recent progress and prospects of microglia as a diagnostic and therapeutic target for AD are analysed. A review of the literature on the mechanisms regulating MG for AD at home and abroad revealed that acupuncture modulation of microglia could help to delay the progression of AD. This was followed by an extensive discussion of the clinical possibilities and scientific validity of acupuncture treatment for AD, with the aim of providing new insights for acupuncture modulation of MG targeting for the treatment of AD.

*Jianfei S, Zhengyuan Q, Xinlu GU, Yan Z, Xingrui LI.* **Efficacy of acupuncture combined with upper limb rehabilitation robot-assisted training for neuroplasticity and functional recovery of patients with stroke: a prospective cohort study based on functional near-infrared spectroscopy technology.** J Tradit Chin Med. 2025; 45(4):860-866. doi: 10.19852/j.cnki.jtcm.2025.04.015. PMID: 40810232; PMCID: PMC12340582.

**Objective:** To investigate the effects of acupuncture combined with upper limb rehabilitation robot on neural remodeling and functional recovery in post-stroke patients.

**Methods:** There were 50 stroke patients were randomly divided into an experimental group (acupuncture combined with upper limb rehabilitation robot assisted training) and a control group (upper limb rehabilitation robot assisted training). Various assessments were conducted to compare the effects of the two treatments on neural remodeling and functional recovery. Functional near-infrared spectroscopy technology was used to assess the effects of different treatments on neural plasticity and their impact on upper limb function and activities of daily living.

**Results:** The experimental group showed significantly higher concentrations of oxygenated hemoglobin and total hemoglobin in specific brain regions compared to the control group ($P < 0.05$). Additionally, the experimental group had significantly lower concentrations of deoxygenated hemoglobin ($P < 0.05$). After treatment, both groups showed improvements in various measures, but the experimental group had significantly greater improvements ($P < 0.05$).

**Conclusion:** Acupuncture combined with upper limb rehabilitation robot can effectively improve upper limb function and neural remodeling in stroke patients. This study supports the integration of Traditional Chinese and Western Medicine in improving limb dysfunction post-stroke.

## Aromatherapy

*Us SA, Taşcı S, Demirtaş AO.* **The effect of lavender essential oil aromatherapy on anxiety and fatigue in patients with implantable cardioverter defibrillator: randomized controlled trial.** Explore (NY). 2025; 21(5):103233. doi: 10.1016/j.explore.2025.103233. Epub ahead of print. PMID: 40795547.

**Objective:** This study aimed to investigate the effect of lavender essential oil aromatherapy on anxiety and fatigue levels in patients with implantable cardioverter defibrillator (ICD).

**Design:** A single-blind, randomized controlled trial.

**Setting:** Conducted in the cardiology outpatient clinic of a university hospital. Weekly home visits were made to both groups for data collection and follow-up.

**Sample:** Eighty-six ICD patients were randomly assigned to intervention ($n = 43$) or control ($n = 43$) group.

**Interventions:** Participants were randomized weekly to intervention or control weeks, with age and gender balance achieved through weekly matching. The intervention group inhaled lavender essential oil for two minutes every night before bedtime for four weeks. The control group received only routine care.

**Measurements:** Data were collected using a patient identification form, Piper Fatigue Scale (PFS), Spielberger State-Trait Anxiety Inventory short forms (STAIS-5 and STAIT-5), and Visual Analog Scale (VAS) for fatigue. Ethical approval and informed consent were obtained. Analyses were performed using SPSS 25 and G*Power.

**Results:** No significant difference was found between the groups at the beginning. However, at follow-up at weeks 2, 3, and 4, the intervention group showed significantly greater reductions in anxiety and fatigue scores, except for the emotional and cognitive PFS subdimensions ($p<0.05$).

**Conclusion:** Aromatherapy with lavender oil may help reduce anxiety and fatigue in ICD patients and support the use of complementary care strategies in this population.

***Reven ME, Carpenter R, Smith MJ, Newhouse A, Wang K.*** **Using an aromatherapy intervention with Citrus bergamia (bergamot) essential oil in adults in treatment for substance use disorder: A randomized controlled trial.** Int J Nurs Sci. 2025; 12(4):311-319. doi: 10.1016/j.ijnss.2025.04.011. PMID: 40786851; PMCID: PMC12332428.

**Objectives:** This study had two aims. Aim one is to evaluate the feasibility and acceptability of using an aroma-based, self-managed intervention for adults in outpatient treatment for substance use disorder. Aim two is to examine the effects of a Citrus bergamia (Bergamot) essential oil intervention on the variables of comfort, ease, and stress.

**Methods:** A randomized controlled trial was conducted (NCT05660434). Adults in treatment for substance use disorder were randomized to either control group (standard care) (n = 55) or intervention group (standard care plus Citrus bergamia [Bergamot] essential oil intervention), three times a day for seven days (n = 45). All data were analyzed using an intention-to-treat method. Outcomes were measured using valid and reliable measures.

**Results:** One hundred participants were recruited over 11 months. Reasons for non or limited participation included feeling overwhelmed by the demands of treatment and everyday living. Data analysis showed psychological variable improvement with a significant increase in ease reported (P = 0.022) and DASS-21 subscales for depression (P = 0.007) and anxiety (P = 0.013) in the intervention group. Post-satisfaction survey results were positive, with overall enjoyment, perception of the aroma, and intention to continue to use the aroma inhaler post-trial, which was high.

**Conclusions:** Results from this study provide data to support the feasibility and acceptability of using essential oil via inhalation to help this population. Findings from this study will inform a more extensive study designed to examine effects within and between groups using a placebo.

## Complementary therapies

***Goldfine CE, Wilson JM, Kaithamattam J, Hasdianda MA, Mancey K, Rehding A, Schreiber KL, Chai PR, Weiner SG.*** **Randomized Trial of Self-Selected Music Intervention on Pain and Anxiety in Emergency Department Patients with Musculoskeletal Back Pain.** West J Emerg Med. 2025; 26(4):1112-1119. doi: 10.5811/westjem.34871. PMID: 40795020; PMCID: PMC12342572.

**Introduction:** Acute musculoskeletal back pain is a frequent cause of emergency department (ED) visits, often with suboptimal relief from standard treatments. Recent evidence suggests listening to music may modulate pain and anxiety. In this pilot randomized controlled trial, we evaluated the impact of a brief session of patient-selected music vs noise cancellation on pain severity and anxiety in patients presenting to the ED with back pain.

**Methods:** Patients with acute back pain completed a baseline survey to assess demographics, medication information, and psychosocial factors. The ED patients were randomized to listen to self-selected music or to noise cancellation (control). Patients rated their pain and anxiety (0-10) before and immediately after the intervention. We used analyses of covariance to examine whether post-intervention pain and anxiety differed between the groups, while controlling for baseline trait pain catastrophizing. A mediation analysis was conducted to explore the role of post-intervention anxiety as a mediator of the group difference in post-intervention pain.

**Results:** Forty patients were enrolled with an average age of 47.2 years (range 21 - 81). and 27 patients (68%) were female. At baseline, patients in the music group reported higher pain catastrophizing compared to patients in the noise cancellation group. There were no other group differences in baseline characteristics. Post-intervention, patients in the music group reported significantly lower anxiety (3.0 ± 0.7 vs 5.5 ± 0.7, P = 0.016) and pain severity (6.1 ± 0.4 vs.7.5 ± 0.4, P = 0.037) compared to the noise cancellation group. A mediation analysis showed that post-intervention anxiety partially mediated the association between intervention group (music vs noise cancellation) and post-intervention pain.

**Conclusion:** A brief session of self-selected music resulted in lower pain and anxiety scores than noise cancellation among patients with musculoskeletal back pain in the ED. Patients who listened to music reported lower post-intervention anxiety, which partially contributed to lower post-intervention pain severity.

***Little AL.*** **The A52 Breath Method: A Narrative Review of Breathwork for Mental Health and Stress Resilience.** Stress Health. 2025; 41(4):e70098. doi: 10.1002/smi.70098. PMID: 40792649; PMCID: PMC12341363.

Breathwork - deliberately altering the way one breathes - has gained growing attention as an emerging non-pharmacological intervention for mental health and stress regulation. A novel yet ancient method that remains largely underexplored in the literature, breathwork requires structured, evidence-based investigation to optimize its application. This review analyses the existing literature on slow, diaphragmatic, nasal breathing and breath-holding techniques, to propose the A52 Breath Method-a theoretically grounded approach for enhancing stress resilience. A narrative review of breathwork literature was conducted that focused on the physiological and psychological mechanisms underpinning stress reduction. Medical databases were searched: 465 articles were screened and 30 studies underwent full-text review. Studies examining slow breathing (≤ 6 breaths per minute), diaphragmatic activation, nasal breathing, and breath

holds were analyzed for their effects on autonomic nervous system regulation, heart rate variability (HRV), and psychological resilience. The findings indicate that slow, nasal, diaphragmatic breathing significantly improves vagal tone, HRV, parasympathetic activity, and emotional control, while reducing cortisol, anxiety, stress, and PTSD. The integration of these elements in the 5-s inhale, 5-s exhale, 2-s hold pattern (A52 Breath Method) provides a structured approach to breathwork with potential applications in high-stress professions, including emergency responders, military personnel, healthcare workers, and everyday life. The A52 Breath Method represents a novel, evidence-informed breathwork framework designed to optimize stress regulation. Future research should validate its efficacy through randomised controlled trials, particularly in populations exposed to chronic and acute stress. This conceptual model has the potential to inform clinical and occupational interventions for mental health and stress resilience.

***Ganguly S, Singh Sra M, Sasi A, Singh R, Verma V, Sharma S, Lohiya A, Das A, Pushpam D, Bakhshi S.*** **Prevalence and Perception of Complementary and Alternative Medicine Use Among Childhood Cancer Patients: A Mixed-Methods Study.** Pediatr Blood Cancer. 2025: e31975. doi: 10.1002/pbc.31975. PMID: 40799010.

**Background:** Complementary and alternative medicine (CAM) usage among childhood cancer patients remains understudied. Factors associated with CAM use and motivations of caregivers for using CAM remain poorly understood.

**Methods:** This cross-sectional mixed-methods study was conducted among caregivers of patients aged ≤18 years with confirmed cancer diagnoses. Caregivers were interviewed regarding CAM use, reasons for using/non-using CAM, and views on CAM. Logistic regression identified factors associated with CAM use, whereas qualitative interviews explored motivations and barriers. The impact of CAM usage on 2-year overall survival was explored.

**Results:** Out of 450 respondents, CAM usage was reported by 35.78% (n = 161), with home remedies (28.44%, n = 128) and AYUSH (Ayurveda, Unani, Siddha, Yoga, Homeopathy) therapies (13.56%, n = 61) being most common. CAM use was associated with symptom duration ≥30 days (adjusted odds ratio [aOR]: 1.71; 95% CI: 1.09-2.67; p = 0·019) and hematological malignancies (aOR: 2.05; 95% CI: 1.33-3.17; p = 0·001). Major motivations for CAM use included belief in effectiveness (44.72%, n = 72) and family recommendations (34.16%, n = 55). Qualitative interviews highlighted cost, accessibility issues, and diagnostic delays as key drivers of CAM adoption. The 2-year survival probabilities of CAM users and nonusers were comparable (0.88 [95% CI: 0.83-0.94] vs. 0.87 [95% CI: 0.83-0.92], log-rank p = 0.75).

**Conclusion:** CAM is frequently used by pediatric cancer patients, driven by caregiver beliefs, family influence, and access barriers. Addressing caregiver practices and integrating CAM discussions into care may enhance supportive strategies without impacting survival outcomes.

## Herbal medicine

***Anheyer M, Cramer H, Ostermann T, Langler A, Anheyer D.*** **Herbal Medicine for Treating Herpes Labialis: A Systematic Review.** Journal of Integrative and Complementary Medicine. 2025. https://doi.org/10.1089/jicm.2025.0131

**Introduction:** Herpes labialis, commonly caused by herpes simplex virus type 1, affects millions globally and is traditionally managed with nucleoside antiviral drugs. However, increasing interest in complementary and integrative therapies has led to the exploration of topical herbal treatments as potential alternatives or adjuncts in managing this condition.

**Methods:** A systematic review was conducted in accordance with Cochrane guidelines and Preferred Reporting Items for Systematic Reviews and Meta-Analyses recommendations, with prior registration. A comprehensive search of Medline/PubMed, Scopus, and the Cochrane Central Register of Controlled Trials was performed from inception to June 17, 2024. After screening 7,386 nonduplicate records and assessing 346 full-text articles, 7 randomized controlled trials (RCTs) encompassing 1,250 patients were included. Data were extracted regarding intervention types, outcomes, and adverse events, and the risk of bias was evaluated using the Cochrane Risk of Bias Tool.

**Results:** The included studies evaluated topical formulations of lemon balm (Melissa officinalis L.), olive leaf extract (Olea europaea L.), propolis, and a combined sage–rhubarb cream (Salvia officinalis L., Rheum palmatum L., and Rheum officinale Baill.). Lemon balm preparations consistently reduced pain intensity and swelling, with some studies also reporting a significant decrease in lesion size compared with placebo or acyclovir. Olive leaf extract demonstrated a statistically significant faster improvement in symptoms and a shorter healing time compared with acyclovir. Compared with acyclovir, propolis formulations significantly shortened the median time to lesion encrustation and complete healing compared with acyclovir, and the combined sage–rhubarb cream showed a comparable efficacy to acyclovir in mean healing time. Overall, the risk of bias was judged to be low in two trials, while five trials raised some concerns. The total sample size across studies was small, potentially limiting the generalizability of the results. Across all studies, adverse events were minimal or absent.

**Discussion:** The findings indicate that topical herbal therapies may provide effective and well-tolerated alternatives or adjuncts to conventional antiviral treatments for herpes labialis. However, considerable heterogeneity in intervention protocols and outcome measures, as well as the underrepresentation of pediatric populations, limit the generalizability of these findings.

**Conclusion:** Topical herbal interventions, including lemon balm,

olive leaf extract, propolis, and sage–rhubarb formulations, demonstrate potential benefits in managing herpes labialis with favorable safety profiles. Future well-designed, large-scale RCTs employing standardized methodologies are necessary to confirm these findings and to establish optimal treatment protocols for diverse patient populations (Inplasy protocol number: 202350038).

***Pote S, Salve P, Gudasi S, Gurav S.* Unravelling the Anti-inflammatory Potential of Mitragyna parvifolia: A Mechanistic and Data-Driven Approach to Herbal Medicine.** Journal of Herbal Medicine. 2025; 101038. https://doi.org/10.1016/j.hermed.2025.101038

**Introduction:** Inflammation is a protective physiological response, but its chronic manifestation leads to adverse health outcomes. Current anti-inflammatory treatments often have significant side effects, necessitating safer alternatives. Mitragyna parvifolia, a medicinal plant, has demonstrated anti-inflammatory potential, though its mechanisms remain underexplored. The current study was designed to explore the anti-inflammatory mechanisms of M parvifolia, emphasising its potential as therapeutic agent for inflammatory diseases.

**Methods:** This study employed in silico approaches, including network pharmacology, molecular docking, and molecular dynamic simulations, to identify interactions between M parvifolia phytocompounds and inflammatory targets. Experimental validation was conducted using supercritical $CO_2$ leaf extract, evaluated for cytotoxicity, protein denaturation, COX-2 inhibition, and HRBC membrane stabilisation and phytochemical profiling using LC-QTOF-MS analysis.

**Results:** Thirteen phytocompounds of M parvifolia were found to modulate 97 inflammatory targets, significantly impacting Interleukin-17 and TNF signalling pathways. Molecular docking revealed strong binding of compounds to key targets, including MMP9 and PTGS2, with the MMP9-Corynan-17-ol complex showing the highest stability in simulations. LC-QTOF-MS analysis identified 10 major bioactive constituents, supporting in silico predictions. Experimental assays confirmed low cytotoxicity (>90% cell viability) and demonstrated potent anti-inflammatory effects: 73.71% ± 1.5% inhibition of COX-2 activity, 73.9% ± 0.4% inhibition of protein denaturation, and 75.5% ± 0.83% HRBC membrane stabilisation at maximum concentrations.

**Conclusions:** M parvifolia exhibits significant anti-inflammatory properties through modulation of key pathways and targets, combined with strong experimental validation of its efficacy and safety. These findings position M parvifolia as a promising candidate for developing natural, safer anti-inflammatory therapies.

***Coopoosamy R, Singh K, Naidoo K, Nadasan DS.* The role of phytomedicine: Bridging the gap between the past, present, and future.** Journal of Medicinal Plants for Economic Development. 2025; 2616-4809.

**Background:** Over the last two decades, medical healthcare has increased at an exponential rate. The discovery of new infectious diseases and the development of conventional new drugs have increased the health sector's reliance on alternative remedies such as holistic healing, Chinese traditional medicines, African traditional medicines, and Ayurvedic medicines. These traditional remedies have been around since time immemorial.

**Aim:** This study reviewed literature and discussed the historical role of phytomedicine in the development of synthetic treatments, the current state of phytomedicine research, and the future implication of such research.

**Setting:** This review provides a world overview of the use of phytomedicine.

**Method:** This paper summarises previous research on the use of phytomedicine as a source of healthcare over decades using scientific internet databases.

**Results:** Medicinal plants are heavily exploited for the therapeutic properties. Over the years, plants displayed a phenomenal benefit to human health problems worldwide. Advancement in plant research to combat multiple human ailments has drastically increased from the past to the present. Currently, researchers are using a computational platform to evaluate the potential of plant bioactive compounds towards novel, effective, and affordable drug development candidates to gain a better understanding of drug interactions with the body's biochemical pathways.

**Conclusion:** Medicinal plants are still important in global healthcare systems. Literature reveals that there is a resurgence of interest in plant-based medicines for the prevention and treatment of a variety of human ailments.

## Homeopathy

***Doherty R, Pracjek P, Luketic CD, Straiges D, Gray AC.* The Application of Artificial Intelligence in Acute Prescribing in Homeopathy: A Comparative Retrospective Study.** Healthcare (Basel). 2025; 13(15):1923. doi: 10.3390/healthcare13151923. PMID: 40805956; PMCID: PMC12345833.

**Background/objective:** The use of artificial intelligence to assist in medical applications is an emerging area of investigation and discussion. The researchers studied whether there was a difference between homeopathy guidance provided by artificial intelligence (AI) (automated) and live professional practitioners (live) for acute illnesses. Additionally, the study explored the practical challenges associated with validating AI tools used for homeopathy and sought to generate insights on the potential value and limitations of these tools in the management of acute health complaints.

**Method:** Randomly selected cases at a homeopathy teaching clinic (n = 100) were entered into a commercially available

homeopathic remedy finder to investigate the consistency between automated and live recommendations. Client symptoms, medical disclaimers, remedies, and posology were compared. The findings of this study show that the purpose-built homeopathic remedy finder is not a one-to-one replacement for a live practitioner.

**Result:** In the 100 cases compared, the automated online remedy finder provided between 1 and 20 prioritized remedy recommendations for each complaint, leaving the user to make the final remedy decision based on how well their characteristic symptoms were covered by each potential remedy. The live practitioner-recommended remedy was included somewhere among the auto-mated results in 59% of the cases, appeared in the top three results in 37% of the cases, and was a top remedy match in 17% of the cases. There was no guidance for managing remedy responses found in live clinical settings.

**Conclusion:** This study also highlights the challenge and importance of validating AI remedy recommendations against real cases. The automated remedy finder used covered 74 acute complaints. The live cases from the teaching clinic included 22 of the 74 complaints.

***Schäferkordt R.*** **Data Mining in Homeopathic Materia Medica.** Homeopathy. 2025. doi: 10.1055/a-2591-4676. PMID: 40769211.

Data-driven research stems from the original idea of homeopathy, which can be transferred to the 21st century with modern statistical concepts, especially techniques of data mining. In preparing a statistical approach to Materia Medica, abstraction of symptoms is pivotal. The main works of Materia Medica were indexed, creating the requirements for analyzing existing data. A manifold range of objectives are conceivable for analysis of Materia Medica: e.g., checking the quality of the existing data; assessing the prevalence of symptoms; calculating correlations between symptoms; assessing the discriminating power of symptoms; handling of polar symptoms; analyzing cross-references between medicines; calculating domains for each medicine, such as spheres of action, organs and side localization; building a new repertory from scratch.As a first step, a comparison between data of Materia Medica, prognostic factor research (PFR) and repertories for six selected repertory rubrics was performed, showing moderately high correlations between Materia Medica and PFR. Methods of data mining applied to Materia Medica can help to analyze existing data to a maximum extent and contribute to the further development of the homeopathic method, both scientifically and practically.

***Ullman D.*** **Rockefeller, the Flexner Report, and the American Medical Association: The Contentious Relationship Between Conventional Medicine and Homeopathy in America.** Cureus. 2025; 17(7): e87291. doi: 10.7759/cureus.87291. PMID: 40755667; PMCID: PMC12318542.

This article examines the ideological and institutional forces that led to the marginalization of homeopathy in American medicine, despite its popularity among prominent figures, including John D. Rockefeller. Drawing on five previously unpublished reports written for Rockefeller by his philanthropic and business advisor, Frederick T. Gates, the article reveals how these internal communications criticized homeopathy while shaping Rockefeller philanthropic foundations' policy. Using early 20th-century archival materials, it places the foundations' decisions within the broader context of changes in American medical education and regulation. The resulting funding decisions played a critical role in medical education reform and the rise of "scientific medicine." The article also summarizes several strategies used by the American Medical Association (AMA) to marginalize homeopathy, including the "consultation clause" in its code of ethics, its collaboration in the writing of the Flexner Report, and its early advertising policies - an underexamined but significant factor in the AMA's consolidation of power and accumulation of financial resources.

## Massage, myotherapy and other bodywork

***Hauschulz JL, Yang J, Do A, Calva JJ, Bublitz SE, Orozco-Street JC, Dion LJ, Mueller MR, Bauer BA.*** **Case reports of acupuncturists and massage therapists at Mayo Clinic: New allies in expediting patient diagnoses.** Explore (NY). 2025; 21(6):103237. doi: 10.1016/j.explore.2025.103237. PMID: 40819556.

**Background:** Massage therapists (MTs) and licensed acupuncturists (LAcs) are increasingly embedded within interdisciplinary care teams in both inpatient and outpatient settings. While not traditionally viewed as diagnostic providers, their extended, hands-on interactions with patients enable them to observe subtle physical and behavioral changes that may support early clinical recognition of underlying health issues.

**Objective:** To present a case series in which MTs and LAcs identified abnormal clinical findings during routine care, prompting timely referrals that led to new or expedited diagnoses.

**Methods:** Seven patient cases were retrospectively reviewed in which observations made by MTs and LAcs- such as localized swelling, tissue changes, or unexplained symptoms-led to further medical evaluation and diagnosis. Each case illustrates the value of sustained patient contact, therapeutic rapport, and clear interdisciplinary communication, supported by structured documentation and referral protocols.

**Results:** In all seven cases, the MTs and LAcs played a pivotal role in accelerating clinical evaluation. Their observations contributed to the identification of conditions ranging from cellulitis, pneumonia, and melanoma to complex diagnoses such as multiple myeloma and arterial occlusion. Effective collaboration with nursing and physician teams through electronic medicine record documentation, internal messaging, and direct paging enabled appropriate and timely escalation of care.\ Conclusion: MTs and LAcs, while practicing within their professional scope, can enhance diagnostic awareness through careful observation and

patient-centered communication. When supported by institutional infrastructure and interdisciplinary trust, these providers serve as valuable contributors to early detection and care coordination. This case series underscores the importance of formally integrating integrative health practitioners into diagnostic workflows to improve patient outcomes and safety.

***Gogola A, Gnat R.*** **Effects of 12-Week Infant Shantala Massage Program on Maternal Emotional Well-Being Following First-Time Birth.** Healthcare (Basel). 2025; 13(15):1895. doi: 10.3390/healthcare13151895. PMID: 40805928; PMCID: PMC12346134.

**Background/Objectives:** This study aimed to determine whether postpartum mothers exhibit a uniform trajectory of postpartum emotional status (PES) changes or if distinct subgroups with differing trajectories of PES exist. Additionally, it investigated whether intensified tactile stimulation of the infant through Shantala massage influences maternal PES.

**Method:** A quasi-experimental design with a matched control group was employed. Eighty women following their first physiological delivery volunteered to participate. The intervention involved applying intensified tactile stimulation to the infant via Shantala massage over a 12-week postpartum period. Maternal PES, divided into negative and positive emotional domains, was assessed using four standardized questionnaires.

**Results:** Two opposing trajectories of PES change were identified: adverse and favorable. Intensified tactile stimulation was associated with improvement in maternal emotional status along both trajectories.

**Conclusions:** PES changes do not follow a uniform course across all women; notably, those with a favorable trajectory often begin with more severe symptoms. Overlooking this distinction in diagnosis, prevention, and treatment may result in suboptimal care. The factors influencing PES trajectories remain unidentified but may affect clinical intervention outcomes. The Shantala massage intervention appears to slow the progression of emotional disorders in women with adverse PES changes and accelerate recovery in those with favorable changes. Implementation of this approach in clinical settings is recommended.

***Pereira GS, Paulino GE, de Almeida THMF, Siqueira CMR, Torres da Silva JR, da Silva ML, Alves Ferrera LM.*** **Effectiveness of cold-water immersion vs.** massage in reducing delayed-onset muscle soreness and enhancing recovery following CrossFit® Murph Workout: Randomized rial. PLoS One. 2025; 20(8):e0329892. doi: 10.1371/journal.pone.0329892. PMID: 40802667; PMCID: PMC12349088.

The Murph workout, one of the most challenging CrossFit® workouts, demands endurance and high intensity. This WOD (Workout of the Day) includes a 1-mile run, 100 pull-ups, 200 push-ups, 300 air squats, and another 1-mile run, typically performed while wearing a weighted vest. Due to its high physical demands, athletes commonly experience Delayed Onset Muscle Soreness (DOMS), characterized by increased sensitivity, fatigue, and reduced muscle function. To minimize these effects and ensure proper recovery, it is essential to adopt strategies that restore muscle function, reduce pain, and allow athletes to return to training without an elevated risk of injury. Thus, the objective of this study was to investigate the effects of massage therapy (MAS) or cold-water immersion (CWI) as a recovery intervention for DOMS in athletes following high-intensity physical activity during the CrossFit® Murph workout. For this purpose, thirty individuals with a minimum of six months of CrossFit® experience and familiarity with all exercises used in the study were recruited. Pain assessment questionnaires, including the Brief Pain Inventory (BPI) and the A-DOM questionnaire, along with a socioeconomic questionnaire, were administered before and after WOD. Additionally, pain assessments were conducted using algometry and thermographic imaging. After completing the WOD, participants were randomly assigned to one of two recovery interventions: MAS or CWI. The study results highlight the differential impacts of CWI and MAS on pain management and recovery dynamics following structured exercise. Our findings clearly demonstrate that CWI significantly reduces pain prevalence, both at rest and during exercise, as evidenced by the absence of pain reports from participants 48 hours after the intervention. While our study provides valuable insights into the effectiveness of CWI and MAS for post-exercise recovery, limitations such as the non-blinded study design and small sample size may influence the generalizability of the findings.

***Boangmanalu ES, Masfuri M, Adam M, Nining S, Banna T, Pulungan IM.*** **Swedish abdominal massage against warm water therapy on postoperative orthopaedic surgery constipation: a comparison quasi-experimental study.** F1000Res. 2025; 13:1531. doi: 10.12688/f1000research.159217.2. PMID: 40799202; PMCID: PMC12340488.

**Background:** Postoperative immobilizatiton for patients with lower extremity fractures causes constipation, which usually affects 50-70% of patients. When it comes to nursing interventions for postoperative constipation, Swedish abdominal massage and warm water drinking therapy are two possible options.

**Aim:** The objective of this study is to compare the effectiveness of drinking warm water and Swedish abdominal massage on constipation scores on post-operative lower extremity fractures.

**Methods:** A quasi-experimental pre-posttest design without control group design was applied. 30 respondents used simple random sampling technique. The Constipation Assessment Scale (CAS) questionnaire was used to assess the patient's constipation levels before and after the intervention. The data analysis used independent t-test.

**Results:** The mean score of constipation of drinking water group after the intervention was 4.60 while abdominal Swedish massage was 3.56. Although both significantly reduced the constipation score, the p-value was 0.00.

**Conclusion:** The protocol of drinking warm water and Swedish abdominal massage immediately after waking up effectively reduced constipation scores on postoperative lower extremity fracture patients and can be use to adjuvant therapy. Further studies are needed to investigate postoperative constipation patients with immobility and the use of strong analgetics.

***Rajabi R, Akhlaghi F, Asadi N, Zamani Babgohari F, Arabpoor F.* The Effect of Foot Reflexology Massage on Fatigue and Sleep Quality in Hemodialysis Patients.** SAGE Open Nurs. 2025; 11:23779608251364099. doi: 10.1177/23779608251364099. PMID: 40786836; PMCID: PMC12332255.

**Background and aim:** Hemodialysis patients experience fatigue due to factors such as toxic compounds in the bloodstream, fluid, and electrolyte disorders. Despite resting, they still feel tired and report poor sleep quality. This study aimed to investigate the effect of foot reflexology massage on reducing fatigue and improving sleep quality in hemodialysis patients.

**Methods:** This quasi-experimental study was conducted on hemodialysis patients in southeastern Iran. Eligible patients were selected through purposive sampling and allocated to either the intervention group ($n = 25$) or the control group ($n = 25$). The intervention group received foot reflexology massage three times weekly for three weeks, while the control group received routine care. Data were collected using the Pittsburgh Sleep Quality Index (PSQI) and Piper Fatigue Scale at three time points: pre-intervention, immediately post-intervention, and two weeks after intervention.

**Results:** The findings showed that the mean score of sleep quality in the intervention group decreased from 16.23 before the intervention to 3.31 two weeks after the intervention ($p < .001$). Furthermore, the mean fatigue score in the intervention group decreased from 8.63 before the intervention to 3.11 two weeks after the intervention ($p < .001$).

**Conclusion:** The results of this study showed that foot reflexology can reduce fatigue and increase sleep quality in hemodialysis patients. As a simple, feasible, and non-invasive method without complications, reflexology can be used by nurses to reduce fatigue and increase sleep quality in HD patients.

## Naturopathy

***Malhotra V, Harnett JE, Wong K, Saini B.* Australian Naturopaths Approach to the Clinical Management of Patients Presenting with Sleep Disorders.** Journal of Integrative and Complementary Medicine. 2025; 31(5). https://doi.org/10.1089/jicm.2024.0422

**Objective:** Naturopathic practitioners consult an estimated 6.2% of Australian adults, equating to 1,550,000 people receiving their care each year. Sleep is now recognized as a key pillar of health; however, nearly half of all Australian adults report inadequate sleep. Evidence suggests that many Australians consult naturopaths (NPs) for sleep-related problems and use complementary medicines (CMs) to manage these. However, NPs' clinical approach to caring for people living with sleep disorders has not been reported. Therefore, the aim of this study was to describe and understand the clinical assessment and treatment approaches used by NPs in their care of people living with sleep disorders.

**Materials and Methods:** A cross-sectional online survey with a purposively sought sample. NPs were recruited via the practitioner research-based network. The participants received an email invitation containing a link to the survey along with a Participant Information Sheet. The online survey (Research Electronic Data Capture—see Supplementary Data S1) comprised multiple-choice, binary (yes/no) questions, or 5-point Likert scale-type questions structured across four sections related to: clinical assessment of patients, treatments used, interprofessional communication with conventional doctors, and demographics.

**Results:** Sixty-seven complete data sets were analyzed. Most survey participants treated—one to three patients with sleep disorders weekly, being consulted primarily for insomnia (82%) and its treatment (98.5%). Comprehensive sleep health histories were commonly assessed. Additionally, 69% of participants reported that patients sought their services to complement conventional care. The most frequently used complementary medicine (CM) approaches included sleep hygiene counseling (75%) and meditation (64.7%). Vitamins, minerals, herbal medicines, and nutritional supplements were the most recommended CM medicines (92.6%). Referrals to conventional medicine professionals were minimal.

**Conclusion:** Australian NPs are frequently consulted by people living with sleep disorders who are also using conventional medicines. Our study highlights the need for integrated models of health care tailored to patient needs that maximize potential benefits and reduce any harms associated with drug–CMs interactions. The provision of training to the Australian health care workforce of NPs that focuses on evidence-based behavioral treatments can improve access to these treatments for patients.

## Nutrition

***Hosseini Roknabadi SM, Abolhassani A, Davoodi E, Moghaddam Rad FZ, Jafarnejad S.* The protective effects of coenzyme Q10 on blood pressure: a narrative review of anti-inflammatory and antioxidant mechanisms.** Inflammopharmacology. 2025. doi: 10.1007/s10787-025-01897-6. PMID: 40820066.

The consequences of uncontrolled hypertension, often referred to as the "silent killer," encompass end-organ damage, leading to conditions, such as heart failure, myocardial infarction (heart attack), renal failure, and stroke. The recommended approach for managing high blood pressure involves both pharmacological and behavioral therapies. Existing evidence suggests that individuals with cardio-metabolic diseases may exhibit a deficiency in Coenzyme CoQ10 (CoQ10), potentially contributing to oxidative stress and inflammation associated with hypertension. Various

mechanisms, including an increase in the dietary intake of antioxidant elements, have been postulated to underlie this phenomenon. Because of its anti-oxidative qualities, anti-inflammatory effects, impact on endothelial nitric oxide synthase, improvement of endothelial function, modulation of vascular smooth muscle activity, and reduction of arterial stiffness, CoQ10 has been suggested as a possible alternative therapy for hypertension and related complications. Clinical trials have produced findings that suggest CoQ10 supplementation may lower both systolic and diastolic blood pressure in individuals diagnosed with essential hypertension, frequently as a component of adjunctive therapy. Nonetheless, a thorough comprehension of the mechanisms that determine the effects of CoQ10 on blood pressure and its related complications continues to be elusive. This narrative review investigates the mechanistic effects of CoQ10 on hypertension and its accompanying consequences, with an emphasis on its pharmacological impact on inflammation and oxidative-related pathways. We have conducted an exhaustive literature search, identifying several studies that assess the safety and effectiveness of CoQ10 supplementation in hypertensive patients. Reid IR. Calcium/Vitamin D Supplements and the Heart. Trends Cardiovasc Med. 2025 Aug 13:S1050-1738(25)00109-4. doi: 10.1016/j.tcm.2025.08.005. Epub ahead of print. PMID: 40816635.

***Ebrahimi Daryani N, Alebouyeh M, Tajeddin E, Nazarbeigi S, Jaafari MR, Elyasi S, Karbasforooshan H, Akhondzadeh Basti S, Abdollahi A, Aletaha N, Miri R, Moosavian M.***

Evaluation of oral nano-curcumin formulation effectiveness in patients with mild to moderate ulcerative colitis: a randomized, placebo-controlled, double-blind clinical trial. Naunyn Schmiedebergs Arch Pharmacol. 2025. doi: 10.1007/s00210-025-04484-2. Epub ahead of print. PMID: 40820062.

Recent clinical trials have exhibited that curcumin, a natural polyphenolic compound, is effective as adjuvant therapy in patients with ulcerative colitis (UC). In this randomized, placebo-controlled, double-blind study, 43 patients with mild-moderate UC who were referred to the gastrointestinal ward of Imam Khomeini Hospital in Tehran, Iran were assessed. They were randomly specified to the intervention (n = 21, SinaCurcumin® soft gel 80 mg) or the placebo (n = 22) group, administered twice a day for 1 month, in addition to 5-aminosalicylic acid. The main consequence of the study was to get to a decrement of at least three scores in the Simple Clinical Colitis Activity Index (SCCAI) within a month. Endoscopic and histopathological responses and Hospital Anxiety and Depression Scale (HADS) score changes were also recorded. The clinical ($p = 0.031$, $\chi2 = 4.66$) and endoscopic ($p = 0.005$, $\chi2 = 8.55$) responses and also HADS score changes ($p = 0.06$, $t = - 1.35$) were significantly higher in the treatment group. No significant diversity was presented between groups in terms of inflammatory markers and total anti-oxidant capacity and fecal calprotectin level (p value > 0.05). Nano-curcumin oral formulation with a dose of 80 mg twice daily for 1 month in patients with mild to moderate UC could be an effective adjunct to 5-aminosalicylic acid in clinical, endoscopic, and histopathological response.

***Li R, Li M, Wang X, Zhou Z.* Oxidative stress and inflammation link Life's Essential 8 with adverse cardiovascular events in adults with diabetes mellitus: NHANES 2011-2018.** Clin Investig Arterioscler. 2025: 500844. English, Spanish. doi: 10.1016/j.arteri.2025.500844. Epub ahead of print. PMID: 40819958.

**Background:** The American Heart Association has modified Life's Essential 8 (LE8) as a new algorithm for evaluating cardiovascular health (CVH). However, the relationship between LE8 and cardiovascular disease (CVD) incidence among diabetic patients, and the potential effect of oxidative stress and inflammation within these associations remain to be elucidated.

**Methods:** Three thousand eight hundred twenty-eight diabetic patients were selected from the National Health and Nutrition Examination Survey (NHANES). The weighted logistic regression was employed to examine the association between LE8 with CVD, and the quantitative relationship was investigated with a restricted cubic spline (RCS). Mediation analyses explored the mediating role of oxidative stress and inflammation in the above relationship.

**Results:** In the 3828 diabetic patients, a total of 977 people were diagnosed with CVD, and the LE8 was significantly and linearly negatively associated with CVD incidence. After all covariates were adjusted, the medium CVH group had a 25% lower risk of CVD (OR: 0.75, 95% CI: 0.58, 0.95) than the low CVH group, and the high CVH group had a 66% lower risk (OR: 0.34, 95% CI: 0.12, 0.94). Furthermore, oxidative stress and inflammation explained 11.57% and 10.89% of the connection, respectively ($P<0.05$).

**Conclusion:** Elevated LE8 is negatively associated with adverse cardiovascular events in diabetes mellitus and the association appeared to be partially mediated through oxidative stress and inflammation pathways. Those results indicate the necessity of maintaining at least moderate cardiovascular health and the LE8 help make lifestyle self-management more targeted for diabetes patients.

***Reid IR.* Calcium/Vitamin D Supplements and the Heart.** Trends Cardiovasc Med. 2025: S1050-1738(25)00109-4. doi: 10.1016/j.tcm.2025.08.005. PMID: 40816635.

In summary, calcium supplements have been shown to have no clinically significant effect on fracture risk, carry significant adverse effects on gastrointestinal symptoms and renal calculi, and possibly adversely impact on cardiovascular disease. Therefore, there is little reason to use them in the management of osteoporosis, and cardiologists could play an important role in discouraging their inappropriate use. In contrast, physiological supplements of vitamin D restore normal vitamin D levels in those who are sunlight deprived, at very low cost and with no discernible adverse effects. Their targeted use in those without adequate sunlight exposure should be encouraged.

# HEALTH FUND UPDATE

| Health Fund | Acupuncture | Chinese Herbal Medicine | Counselling | Hypnotherapy | Myotherapy | Nutrition | Remedial Massage (Certificate IV) | Remedial Massage (HLT Diploma or higher level qualification) | Traditional Chinese Remedial Massage (HLT Diploma or higher level qualification) |
|---|---|---|---|---|---|---|---|---|---|
| Australian Health Management | ✓ | ✓ | | | | ✓ | | ✓ | |
| **Australian Regional Health Group** | | | | | | | | | |
| ACA Health Benefits Fund | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Defence Health | ✓ | | | | ✓ | | | ✓ | • |
| GMHBA *(Geelong Medical)* | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Frank Health Fund & Health.com.au | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Health Care Insurance Limited | ✓ | ✓ | | | ✓ | | | ✓ | • |
| HBF | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | |
| Health Partners | | ✓ | | | ✓ | ✓ | | ✓ | |
| HIF *(Health Insurance Fund of WA)* | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Hunter Health *(previously known as Cessnolck DHBF)* | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Latrobe Health Services | ✓ | | | | ✓ | | | ✓ | • |
| MDHF (Mildura District Hospital Fund) | ✓ | | | | ✓ | ✓ | | ✓ | |
| AIA Health *(previously known as MyOwn Health)* | ✓ | | | | ✓ | | | ✓ | |
| Navy Health Fund | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Nurses & Midwives Health | ✓ | ✓ | | ✓ | ✓ | | | ✓ | • |
| Onemedifund | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Peoplecare Health Insurance | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Phoenix Health Fund | ✓ | | | | ✓ | ✓ | | ✓ | • |
| Police Health Fund (including Emergency Services) | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Queensland Country Health | ✓ | ✓ | | | ✓ | ✓ | | ✓ | • |
| Reserve Bank Health Society | ✓ | ✓ | | | ✓ | | | ✓ | • |
| RT Health | | | | ✓ | | | | | |
| See-u by HBF (previously CUA) | | | | | ✓ | | | | |
| St Lukes | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Teachers Health | ✓ | ✓ | | ✓ | ✓ | | | ✓ | • |
| Teachers Union Health | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Transport Health | ✓ | ✓ | | | ✓ | | | ✓ | • |
| Westfund | ✓ | ✓ | | | ✓ | ✓ | | ✓ | • |
| Doctors Health Fund | | | | | | | | ✓ | |
| Australian Unity | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | |
| BUPA | ✓ | ✓ | | | | | | ✓ | ✓ |
| CBHS Health Fund | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ |
| HCF | ✓ | ✓ | | | ✓ | | | ✓ | |
| Medibank Private | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ |
| NIB | ✓ | ✓ | | | ✓ | ✓ | | ✓ | |

✓ *Therapy covered by Fund*

Please note that this table is only a guide to show what funds cover ATMS accredited modalities. If the modality that you are accredited for is not listed, this means that no health fund covers the modality. The only exceptions are Chiropractic and Osteopathy. ATMS accreditation in a modality does not guarantee provider status as all funds have their individual set of strict eligibility requirements. Please see our website www.atms.com.au or contact our office for current requirements. Rebates do not usually cover medicines, only face to face consultations. For further rebate terms and conditions, patients should contact their health fund. Policies may change without prior notice.

- ◆ ARHG are only recognising Remedial Therapists who are accredited for this modality and were approved for ARHG Provider status under their old criteria.
- • ARHG are recognising Chinese Massage, however the eligibility requirements and provider number is exactly the same as Remedial Massage. See ARHG Health Fund Information for further information.

# HEALTH FUND NEWS

**PROVIDER TERMS AND CONDITIONS ARE LOCATED ON OUR WEBSITE UNDER THE HEALTH FUNDS TAB.**

## The Four Pillars to remain current with Health Fund Registration

1. Maintain ATMS Membership
2. Maintain current First Aid
3. Maintain current Professional Indemnity Insurance (Chinese Medicine practitioners require a minimum of $5 million and Remedial Massage practitioners require a minimum of $2 million)
4. CPE (continuing professional education) (ATMS accepts completed CPE that enhances clinical practice however Health Funds require CPE to be modality specific)

***Acupuncture and Chinese Herbal Medicine practitioners must hold current AHPRA registration***

## Working With Children

Practitioners working with under 18's MUST hold a current WWC (Working With Children Check) in their practising state. Please send ATMS a copy to **info@atms.com.au**

Additionally to holding a current WWC, ATMS require that the parent of the child or guardian MUST be present during the consultation.

## Current renewal certification is essential

Please forward all renewals ASAP to prevent disruption of your health fund provider registration: renewals of your insurance, first aid, AHPRA registration and WWC to **info@atms.com.au** as ATMS must hold a current copy at all times for health fund compliance.

*Lapsed membership, insurance or first aid, or non-compliance with CPE, will result in a member being removed from the health funds list. As health funds change their provider eligibility requirements at any given time, upgrading qualifications may be necessary to be re-instated with some health funds.

## Clinical Records

Please note that whilst there is no law or regulation requiring patient clinical notes to be taken in English, many of the major health funds do require patient clinical notes to be taken in English. **Failure to do this will be a breach of the Health Funds Terms and Conditions and may result in the practitioner being removed as a provider for that health fund.**

## Receipting Information

- Medibank/AHM do not accept handwritten receipts (As of April 2021), they must be electronic.
- Sample receipt can be found on our website in the Health Fund tab
- Receipts must be numbered.
- Only one modality per day can be claimed by a client.

## Treating Family, Partners and Business Partners of the Clinic

Health Funds do not permit the payment of benefits if the treated member is a partner, dependent, parent, sibling, or business partner of the servicing provider.

By definition, a provider can only perform one initial consultation with a member. Initial consultations attract a higher benefit than a subsequent consult. Only one 'initial consult' is allowed for any patient per condition.

## Health Fund Clinic address requirements

It is **MANDATORY** that you provide the full clinic address with the street number, street name, suburb, state, and post code, phone number and email address. No PO Boxes acceptable. All updates are forwarded to the health funds by ATMS.

***Note Medibank have a limit of 3 clinic addresses for Remedial Massage practitioners and Bupa have a limit of 4 clinic addresses regardless of the modality.**

## Sharing provider numbers is fraud and against the law

An Accredited member must never allow anyone to use their provider details, as this constitutes health fund fraud. Health fund fraud is a criminal offence which may involve a police investigation and expulsion from the ATMS Register of Members.

## No health funds rebate on mobile services

Mobile Services are services at Hotels, Markets, Retreats or Corporate.

## Home visits

Health Funds that do accept home visit services for rebates are: Aust Unity, CBHS, GU Health and NIB. Home Visit must be Stamped or pre-printed on the receipt.

## Gift vouchers

Most Health Funds do not accept Gift Vouchers as the person receiving the treatment did not pay for the service. It is up to the Health Fund should they recognise it.

## Being a provider implies acceptance of the terms and conditions for the health funds

It is of note that the health funds require practitioners to be in private practice. Some health funds will not recognise claims where accommodation, facilities or services are provided or subsidised by another party such as a public hospital or publicly funded facility. Rebates are only claimable for the face-to-face consultation (not the medicines or remedies); however, this does not extend to mobile work including markets, corporate or hotels.

## Online or phone consultations are not recognised for health fund rebates

Please be aware that whilst a health fund may indicate that they provide a rebate for specific modalities, this rebate may only be claimable if the client has the appropriate level of health cover with that fund and has not exceeded any limits on how much they are eligible to claim back over a certain period of time.

## Acupuncture & Chinese Herbal Medicine overseas qualification (health funds do not accept any other modality completed overseas)

Health Funds do accept overseas Acupuncture and Chinese Herbal Medicine qualifications. The below documents are required:

- VETASSES letter stating the qualification is equivalent/ comparable to the Australian BA Health Science TCM/Acupuncture
- IELTS Overall Band Level 7 in English Competency (Bupa only)

## Specific requirements for individual health funds

### *Australian Health Management (AHM)*

Names and details of eligible ATMS members will be sent to AHM. Provider numbers will be populated in the ATMS member portal.

### *Hypnotherapy - HBF, RT Health, Nurses and Midwives*

Names and details of eligible ATMS members will be sent for this modality each month.

### *Australian Unity*

Names and details of eligible ATMS members will be sent to Australian Unity. ATMS members will need to contact Australian Unity initially on 1800 035 360 to register as a provider and to receive provider numbers.

### *BUPA*

Names and details of eligible ATMS members will be sent to BUPA. Provider numbers will be populated in the ATMS member portal.

### *CBHS Health Fund Limited*

Names and details of eligible ATMS members will be sent to CBHS. Use your ATMS member number as your provider number e.g ATMS23345.

For Acupuncture and Chinese Herbal Medicine services, please use your AHPRA number minus the 0's for e.g if your AHPRA number is CMR0001731686 you would use CMR1731686 as your provider number.

### *Doctors Health Fund*

Names and details of eligible ATMS members will be sent to Doctors Health Fund. Use your ATMS member number as your provider number for e.g., ATMS23345. Please note that Doctors Health Fund only covers Remedial Massage.

### *HCF*

Names and details of eligible ATMS members will be sent to HCF. Use your ATMS member number as your provider number e.g., ATMS23345.

### *Medibank Private*

Names and details of eligible ATMS members will be sent to Medibank Private. Provider numbers will be populated in the member portal as well as emailed directly to the practitioner as an attached letter. This letter is required for HICAPS Registration.

### *NIB including APIA, AAMI Health Insurance, Qantas Health Insurance & GU Health*

Names and details of eligible ATMS members will be sent to NIB. Use your ATMS member number as your provider number e.g ATMS23345 except for GU Health. Members are required to contact GU Health directly on 1800 249 966 to register as a provider and to receive a provider number.

### *Australian Regional Health Group (ARHG) Refer to Health Funds Table for the individual funds listed under ARHG.*

Details of eligible members are sent to ARHG.

The ARHG provider number is based on your ATMS number with additional lettering. To work out your ARHG provider number please follow these steps:

1 Add the letters AT to the front of your ATMS member number

2 If your ATMS number has five digits go to step 3. If it has two, three or four digits, you need to add enough zeros to the front to make it a five-digit number (e.g., 123 becomes 00123).

3 Add the letter that corresponds to your accredited modality at the end of the provider number;

**A** Acupuncture
**C** Chinese Herbal Medicine
**U** Nutrition
**Y** Myotherapy
**R** Remedial Massage
**M** Massage Therapy

For e.g., If your ATMS member number is 123 and accredited for Acupuncture, the ARHG provider number will be AT00123A.

▼ Special condition applies for Remedial Massage for the below funds under ARHG:

- Defence Health▼
- GMHBA ▼ (Including Frank Health Fund)
- HBF (Including GMF Health) ▼
- AIA Health ▼

### *ARHG -Chinese Massage*

ARHG do not recognise Chinese Massage. They categorise it as Remedial Massage. For members that hold a Govt Accredited HLT Diploma of Chinese Remedial Massage HLT50102, HLT50107 or HLT50112 are required to use the 'R' status.

Most Funds recognise the 'R' status however there is a couple that prefer the M status, refer to the health funds table.

## HICAPS

ATMS members who wish to activate these facilities need to register directly with HICAPS. HICAPS do not cover all health funds and modalities. Please go to **www.hicaps.com.au** or call 1800 805 780 for further information.

# ~Vale~

## In loving memory of Henry Osiecki 1949 - 2025

**Honouring the life and legacy of the founder of BioConcepts.**

It is with great sadness that Bio Concepts announces the passing of our founder and distinguished nutritional biochemist, Henry Osiecki.

Henry was a trailblazer in the industry, recognised for his pioneering work in biochemistry and nutrition. Beginning in the early 1980s, he was among the first clinical practitioners to champion the role of biochemistry and nutrition as both a viable alternative and a complementary approach to traditional medicine.

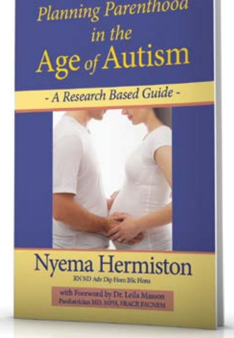
A passionate educator, Henry dedicated his life to raising awareness about the vital role nutrition plays in health. His commitment to sharing knowledge empowered countless practitioners, and his many published books have become cornerstone resources for students and professionals alike. Henry's unwavering belief in the transformative power of natural medicine, particularly for those facing complex, chronic conditions, has left an indelible mark on the industry.

Henry's larger-than-life presence and his genuine warmth earned him the admiration and affection of so many. His influence is felt far and wide, and his remarkable legacy will live on through his beloved family—his devoted wife, Dr. Vera, and their children, Michael and Mariangela.

In 2018, Henry entrusted the leadership of Bio Concepts to his son Dr Michael Osiecki, who has since continued to honour his father's philosophy while further expanding the company and the Orthoplex brand. Henry's vision, dedication, and legacy will undoubtedly endure, inspiring future generations in the fields of natural medicine and nutritional biochemistry.

At this time of grief, the Osiecki family kindly requests privacy as they mourn his passing.

Yours in Health,
The Bio Concepts Team




## Planning Parenthood in the Age of Autism

**Nyema Hermiston**

**Karuna Publishing. 2025. Paperback. Page Count: 160. ISBN: 978-0-6484144-8-3. AUD 35.95. (Discounts available for bookshops and practitioner orders (5 or more copies for on-selling to patients)**

*Reviewed by Stephen Clarke.*

With this publication Karuna Publishing has made yet another important contribution to our knowledge of the relationship between the contemporary environment and public health, and what we can do about it. Here, Nyema Hermiston's particular focus is on the external factors that affect neurodevelopment before conception and during pregnancy, infancy and early childhood, with particular reference to the significant world-wide increase in diagnoses of autism and its related disorders (e.g., ADHD).

One of the great values of the book is its broad examination of the extensive research supporting the author's claims for the harmful effects of so many substances and lifestyle practices that permeate contemporary life: fluoridation of public water supplies, the global use of glyphosate in agriculture, the penetration by forever chemicals and plastics of our seas, skies and soils, air pollution caused by numerous industrial and domestic practices are all exposed by the many studies she cites as factors in developmental health (e.g., PFAs are endocrine disruptors which have been found in in the blood of 98% of people tested globally and to increase the risk of ADHD and autism).

Hermiston points to the links between toxin-related oxidative stress, chronic inflammation and organ damage, including to the brain, as warnings to individuals and families to avoid all these environmental risk factors. The logical extension of these well-documented cases is to apply pressure on relevant authorities to rein them in as a public health policy priority. We must hope that such a process will be an outcome of reading this book. Its clarity and scholarship certainly merit that.

*Planning Parenthood in the Age of Autism* not only identifies the risk factors for neurodevelopmental disorders, but also offers potential solutions, including vitamins, minerals and nutrients that may contribute to promoting healthy development. Parents, prospective parents, and in fact anyone involved in caring for the health of themselves and their families will find it of great value.

# *Continuing* **Professional Education**

Continuing Professional Education (CPE) is a structured program of further education for practitioners in their professional occupations.

The ATMS CPE policy is designed to ensure its practitioners regularly update their clinical skills and professional knowledge. One of the main aims of CPE is to keep members abreast of current research and new developments which inform contemporary clinical practice.

The ATMS CPE policy is based on the following principles:

- Easily accessible to all members, regardless of geographic location
- Members should not be given broad latitude in the selection and design of their individual learning programs
- Applicable to not only the disciplines in which a member has ATMS accreditation, but also to other practices that are relevant to clinical practice which ATMS does not accredit (e.g. Ayurveda, yoga)
- Applicable to not only clinical practice, but also to all activities associated with managing a small business (e.g. book-keeping, advertising)
- Seminars, workshops and conferences that qualify for CPE points must be of a high standard and encompass both broad based topics as well as discipline-specific topics
- Financially viable, so that costs will not inhibit participation by members, especially those in remote areas
- Relevant to the learning needs of practitioners, taking into account different learning styles and needs
- Collaborative processes between professional complementary medicine associations, teaching institutions, suppliers of therapeutic goods and devices and government agencies to offer members the widest possible choice in CPE activities
- Emphasis on consultation and co-operation with ATMS members in the development and implementation of the CPE program

ATMS members can gain CPE points through a wide range of professional activities in accordance with the ATMS CPE policy. CPE activities are described in the CPE policy document as well as the CPE Record. These documents can be obtained from the ATMS office (telephone 1800 456 855, fax (02) 9809 7570, or email **info@atms.com.au**) or downloaded from the ATMS website at **www.atms.com.au.**

It is a mandatory requirement of ATMS membership that members accumulate 20 CPE points per financial year. CPE points can be gained by selecting any of the following articles, reading them carefully and critically reflecting on how the information in the article may influence your own practice and/or understanding of complementary medicine practice. You can gain one (1) CPE point per article to a maximum of three (3) CPE points per journal from this activity:

- **Gibbins A, Grace S. Perspectives on reinstatement of health fund rebates for naturopathy and Western Herbal Medicine: A national online survey of accredited members**
- **McEwen B. The critical role of sleep in optimising health**
- **Medhurst R. More research in homeopathy**
- **McEwen B. Spotlight on Vitamin B6**
- **Muscolino J. Consider the palm – broad, strong and underutilized in massage therapy**
- **Pennington K, Pennington G. Holistic tonal assessment – a model for practising Bowen Therapy**
- **Mallari, P. Introducing ABMMA Bioelectric Meridian Therapy (BMT): A holistic path to wellness**
- **Pagura I. Changes to laws as of 1 July 2025**

As part of your critical reflection and analysis, answer in approximately 100 words the following questions for each of the three articles:

1. What new information did I learn from this article?
2. In what ways will this information affect my clinical prescribing/techniques and/or my understanding of complementary medicine practice?
3. In what ways has my attitude to this topic changed?

Record your answers clearly on paper for each article. Date and sign the sheets and attach to your ATMS CPE Record. As a condition of membership, the CPE Record must be kept in a safe place, and be produced on request from ATMS.

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