

# ACA Research: Unlocking spinal health for older Australians.

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**Embargoed: 10:00am AEST – Thursday 23 May 2024**

## ACA FUNDED RESEARCH – ‘Unlocking spinal health for older Australians’

Currently, low back pain is the leading cause of disability in Australia and globally. The prevalence of ‘years lived with disability’ (YLDs) peaks in older adults, between the ages of 80-84 years. Back pain is considered a global public health issue by the World Health Organisation (WHO), and with the life expectancy of Australians increasing, the number of Australians experiencing disability or declines in functioning due to back pain will surge.

Dr. Katie de Luca PhD, a Chiropractor and Associate Professor at CQUniversity Australia, is a member of the Australian Chiropractors Association whose research examines the impact of back pain on the health and wellbeing of older Australians.

Funded by the Australian Chiropractors Association, Associate Professor de Luca is the lead investigator of the *Back Complaints in the Elderly: Chiropractic – Australia* (BACE:C-A) study. This study provides new insight on older adults who seek chiropractic care for their back pain, and supports the World Health Organisation (WHO) guidelines for the *non-surgical management of chronic primary low back pain in adults in primary and community care settings (2021)*. The WHO guideline recommends a person-centred, drug-free approach to the treatment for low back pain, and include education programs promoting self-care strategies; exercise programs, and physical therapies including spinal manipulative therapies.

Back pain is a musculoskeletal disorder (MSD) which is common in older Australians with more than a quarter (27%) impacted by back pain in the last year. A growing body of evidence also shows that older people with chronic primary back pain (CPLBP) demonstrate significantly greater declines in multiple cognitive areas (such as long-term memory) than those who DO NOT have CPLBP. Furthermore, research shows a strong link between low back pain and depression, diabetes, pulmonary disease and cardiovascular disease.

In chiropractic practice 16% of patients are older adults, which is why the ACA funded research to further explore this important population. The 12-month longitudinal BACE:C-A study investigating the clinical course and predictors of disability in older adults with low back pain found that the quality of life, comorbid chronic health conditions and lower leg limb pain all have detrimental effects on the overall health and wellbeing of older adults. In response to a lack of healthcare options for older adults with back pain, Dr. de Luca recently launched the COMEBACK study at CQUniversity. This study assessed the feasibility of adapted exercises for older people with back pain and comorbid conditions. The findings were important. Participants in the exercise program showed an overall increase in functional capacity and aerobic stamina, a decrease in depression and anxiety, and importantly, decreased frailty - all leading to an increase in reported quality of life. This research has helped to show that improving spinal health is essential to healthy ageing.

This research aimed at educating older Australian’s about the importance of exercise and drug-free therapies to effectively treat back pain, also provides health professionals with simple, meaningful, and effective tools to better manage low back pain in older patients with the overall goal aimed at improving patient care to maximise the prospect of healthy ageing for all Australians.

## **THE AUSTRALIAN CHIROPRACTORS ASSOCIATION**

Established in 1938, the Australian Chiropractors Association (ACA) is the peak body representing chiropractors. The ACA promotes the importance of maintaining spinal health to improve musculoskeletal health through non-invasive, drug-free spinal health and lifestyle advice to help Australians of all ages lead and maintain healthy lives.

The ACA is the premier association for chiropractic in Australia. With around 3,000 members, the ACA is Australia's largest chiropractic health body and has taken a leadership role in promoting the importance of maintaining a healthy spine to improve the overall health and wellbeing of every Australian. ACA develops and promotes professional standards for chiropractors, has invested \$2.2 million to advance research in musculoskeletal health, builds evidence-based practice for chiropractic healthcare and actively promotes the importance of spinal health through its annual flagship campaign, national Spinal Health Week.

Every week 400,000 chiropractic healthcare consultations are creating well-adjusted Australians. With so many Australians visiting a chiropractor every week, chiropractors play an important role in improving the spinal health of everyday Australians.

### **Chiropractic treatment for back pain for older Australians**

Members of the Australian Chiropractors Association (ACA) are 5-year university educated healthcare professionals who effectively treat a wide range of musculoskeletal disorders including the causes of back pain and a range of spinal health conditions.

ACA chiropractors use specialised drug-free, evidence-based, non-surgical techniques including specific spinal adjustments to manage spinal health. They apply low-force intervention and use various manual therapies including soft tissue techniques while assessing lifestyle factors and providing relaxation methods to reduce reliance on medication and minimise stress caused by back pain. By treating the cause of back pain and not just the symptoms, chiropractic healthcare improves the overall health and wellbeing of Australians of all ages.

### **AUSTRALIAN CHIROPRACTORS ASSOCIATION – 'Investment in spinal health research'**

ACA is proud to be the largest chiropractic research funders in Australia, having invested over \$2.2 million in research to date. These research grants not only add value by enhancing knowledge and practices within our field but also elevate the profession's standing in the scientific community. The impact of research is impossible to measure in the short term, but over the long term, with 400,000 Australians seeing chiropractors every week, the effect of improving outcomes could be immense. There is also the possibility of research findings influencing future government policy and funding, which may be vital for many Australians, with musculoskeletal problems being the cause of such immense burden. This is especially true for an ageing population.

### **DR KATIE DE LUCA PHD**

Dr. Katie de Luca PhD, is a chiropractor and Associate Professor at CQUniversity, Australia. Associate Professor de Luca is a member of the Australian Chiropractors Association. Her primary research focus is the epidemiology and management of musculoskeletal disorders across the lifespan, with expertise in older adults and healthy ageing. Dr de Luca was the second author on the recent Global Burden of Disease (GBD) study 2021 low back pain estimates ([Lancet Rheumatology](#)), that showed low back pain prevalence and disability due to low back pain (globally), peaked in older adults (80-84 years).

Dr de Luca's published research includes leading Delphi studies to define spinal osteoarthritis. Her collaborative work with Erasmus University Medical Center, Netherlands has shown associations between clinical symptoms and imaging findings in older adults and her work with the Hong Kong Polytechnic University, Hong Kong has explored cognitive decline and back pain in older adults.

## ADDING LIFE TO YEARS: 'Addressing spinal pain in older Australians'

### Evidence-based medicine often neglects the elderly

Often the elderly are excluded from clinical trials in back pain, and as a result, there are not evidence-based options for the treatment of their back pain. Older Australians, particularly those over 65 years, are at high-risk of developing a musculoskeletal disorder including chronic low back pain which can restrict activities and limit their overall enjoyment of life. If left untreated, chronic low back pain can have devastating consequences including loss of physical and mental capacity and restricted mobility which limits participation in society with psychosocial impacts.

In older Australians with comorbidities (more than one disease or condition), patient complexity should be recognised as an important part of clinical management to improve the quality of life of those who experience low back pain. However, evidence suggests that in general practice, treatment for low back pain in older patients conflicts with recommended treatments including those recommended in the *WHO guideline - for non-surgical management of chronic primary low back pain in adults in primary and community care settings*.

Less than half of older community-dwelling Australians seek treatment for low back pain despite the associated health risks of not seeking treatment. When combined with the findings of the *Royal Commission into Aged Care Quality and Safety (1 March 2021)* where management of health and aged care was generally considered to be performed without the best interest of the patient; there is little doubt that patient education along with greater attention and better informed therapies could be provided to improve the spinal health and overall wellbeing of aging Australians.

Faced with a wide range of potential serious implications to the long-term health of older Australians including loss of cognitive impairment and physical disability, the findings of the ACA funded BACE:C-A study, together with recommendations from the WHO present a strong argument for better healthcare for our older Australians. Healthcare practitioners should be vigilant in the assessment, diagnosis and management of patients with low back pain and firstly pursue non-invasive, drug free and non-surgical treatment options to help minimise the negative consequences of comorbidity, polypharmacy and pharmaceutical adverse events on the physical and mental health and wellbeing of older Australians.

### The implications of back pain on older Australians and the economy

#### Back pain restricts functional ability of older Australians

Functional ability enables all people to have the capabilities to be and do what they value including the having the ability to meet basic needs; learn, grow and make decisions; be mobile and active; build and maintain relationships; and contribute to society. In older Australians;

- ⦿ Functional ability is a major risk factor for dependency, institutionalisation and mortality.
- ⦿ Older Australians have more health conditions than younger Australians, requiring more expensive health services including specialised aged care.

#### The implications of back pain on the economy

In addition to the personal cost to sufferers of back pain, the rising cost of musculoskeletal disorders (MSDs) in Australia (including back pain) makes a case for why there needs to be a proactive, strategic response.

- ⦿ **\$55.1 billion cost to the economy**, including direct health costs, lost productivity and reduced quality of life.
- ⦿ **6.1 million Australians are already affected**, of which 58% are of working age in peak income earning years (25-64 years).
- ⦿ **43% growth in musculoskeletal cases is projected** over the next two decades, including a surge in older Australians living with the conditions.

## The profile of older adults seeking chiropractic healthcare: A secondary analysis

The purpose of the study, using observational data from Australia and Canada, was to describe the demographic characteristics of older adults seeking chiropractic healthcare, to report the reasons why older adults seek chiropractic healthcare, and describe the treatment provided to older adults by chiropractors.

- ⦿ Musculoskeletal conditions are the primary reason older adults seek general medical care, resulting in older adults being the highest consumers of healthcare services.
- ⦿ 16% of people who seek chiropractic healthcare are aged over 65 years.
- ⦿ The most common reasons why older adults sought chiropractic healthcare was a back problem (56%), followed by neck problems (10%).
- ⦿ Soft tissue techniques were most frequently used in the treatment of older patients by chiropractors (85 in every 100 consultations)
- ⦿ In 29 of every 100 consultations (around one third of patients), chiropractors recommended exercise to older patients as a part of their spinal health treatment.
- ⦿ From 6781 chiropractor – adult patient consultations across two countries, one in seven adult chiropractic patients were over 65 years. Of these, nearly 60% presented with a back problem, with neck pain and lower limb problems the next most common presentation to chiropractors.
- ⦿ Musculoskeletal conditions have a significant burden in terms of disability in older adults and are the most commonly treated conditions in chiropractic practice.

## Global, regional, and national burden of low back pain, 1990–2020, its attributable risk factors, and projections to 2050: a systematic analysis of the Global Burden of Disease Study 2021. 23 June 2023, Lancet, Rheumatology.

- ⦿ In 2020, low back pain affected 619 million people globally, with a projection of 843 million prevalent cases by 2050.
- ⦿ Global prevalence rates were higher among females compared with males across all age groups, although more marked differences were observed at older age groups (i.e. over 75 years of age).
- ⦿ Prevalence and ‘years lived with a disability’ (YLDs) increased with age, with peak prevalence rates observed at approximately 85 years of age. Globally, the age group 80–84 years had the highest YLD rate per 100 000.
- ⦿ These results demonstrate that the prevalence of low back pain increases with age, with a peak rate observed at approximately 85 years of age.
- ⦿ From previous research we know that compared with younger adults, older adults are more likely to be severely incapacitated by low back pain, with loss of mobility and independence, leading to greater care needs.
- ⦿ One-fifth of older adults with low back pain report difficulties in caring for themselves at home or participating in family and social activities.
- ⦿ Older people are also more likely to report poorer outcomes and slower recovery when compared with younger adults.
- ⦿ As the population ages, the inclusion of targeted and specific management recommendations for the older population, which take into consideration age-relevant clinical outcomes (i.e. institutionalisation, falls, mobility), preferences, and acceptability is essential in decreasing the burden of low back pain globally.

## HEALTHY AGING: 'The process of developing and maintaining functional ability that enables wellbeing in older Australians'

### Global population is rapidly ageing including Australians

- ⊙ Globally, between 2015 and 2050, the number of people aged 60 years or older will rise from 900 million to 2 billion (up from 12% to 22% of total global population).
- ⊙ With life expectancy of older Australians increasing, there is a rapid surge in the number of Australians experiencing disability or declines in functioning for substantially longer periods of their lives.

### Global burden of musculoskeletal disorders (MSDs) & back pain is growing at a rapid rate

- ⊙ 2.4 billion people have conditions that would benefit from rehabilitation
- ⊙ Of those, 1.71 billion people experience MSDs – **That's 71.25% of the world's population.**
- ⊙ According to the World Health Organisation (WHO 2023) the greatest causes of disability globally are MSDs, particularly back and neck pain.
- ⊙ **Among MSD's, low back pain (LBP) has the highest prevalence affecting half a billion people and is the single leading cause of disability in 160 countries including Australia.**

### Global prevalence & burden of MSDs & back pain across the life course

- ⊙ In 2019, the global prevalence of MSDs was due to low back pain, which was highest among 80-89 year-olds. In the 70-74 year-old age group the highest incidences of MSDs was due to neck pain.
- ⊙ The peak DALYs was among the 50-54 year-old age group.

NOTE: (*One DALY = the loss of the equivalent of one year of full health.*)

- ⊙ For a disease or health condition, DALYs are the sum of the 'years of life lost' (YLLs) due to premature mortality and the 'years lived with disability' (YLDs) due to prevalent cases of disease or health conditions in a population.
- ⊙ Approximately 70% of YLLs through disability were among working aged people (20-65 years) with the disease burden being greatest in the 50-54 age group.
- ⊙ Major costs associated with LBP that impact a population are due to a decline in work productivity with LBP a primary reason of early retirement causing financial stress in older adults due through loss of income and wealth.

### The impact of MSDs and LBP on older Australians

- ⊙ **MSDs are common in older adults, with more than a quarter (27%) impacted by back pain in the last year.**
- ⊙ As people age they have more musculoskeletal complaints. Multisite joint pain is more common, with older Australians having a greater number of MSDs at any one point in time than younger adults with pain often co-occurring in more than one pain site.
- ⊙ Older Australians, particularly those aged over 65 years are more likely to develop chronic low back pain.
- ⊙ Back pain in older Australians is more severe and debilitating and has a substantial impact on their overall health and wellbeing through disability or a decline in functioning.
- ⊙ Low back pain is the most common health problem among older Australians that can restrict activities and limit overall enjoyment of life.
- ⊙ **Older Australians are the largest group seeking 'complementary and alternative medicine' (CAM) which may be due to dissatisfaction with existing medical care or improved education on alternatives to medication and surgery.**

## Back pain risk factors to older Australians if left untreated

A growing body of evidence has shown that older people with Chronic Primary Low Back Pain (CPLBP) (also known as non-specific low back pain) demonstrate **significantly greater declines in multiple cognitive areas**, such as long-term memory, selective attention, processing speed, and executive function **than those who DO NOT have CPLBP**.

Following analysis of the National Health and Nutrition Examination Survey of 2,975 older Australians even after correcting for older age, **older people with spinal pain had a significantly increased risk of cognitive impairment than those without spinal pain**.

### The impact of back pain on cognitive functioning

- ⦿ **The proportion of cognitive impairment is 40% higher for older people with low back pain.**
- ⦿ Older people with back pain are **8 times more likely** to develop dementia **within 10 years**.
- ⦿ Even after correcting for older age, the increased **odds of cognitive impairment in older people is doubled**.

### Evidence that cognitive functioning declines in older Australians with low back pain

With the high prevalence of CLBP in the ever-growing aging population, a recent scoping review summarised what is known regarding the potential mechanisms underlying accelerated cognitive decline in people with chronic low back pain.

Thirty-four studies (19 cross-sectional studies, one prospective study, four quasi-experimental studies, six narrative reviews, three systematic reviews, and one meta-analysis) were included.

Four mechanisms for the cognitive decline in individuals with CPLBP were identified including:

- ⦿ Altered brain activity or resources competition (disruption of and/or discontinuity in normal activity);
- ⦿ Comorbidities of CPLBP (depression, anxiety, insomnia, and pain catastrophising);
- ⦿ Grey matter atrophy (grey matter decreases (atrophy) when its nerve cells die); and,
- ⦿ Neuroinflammation (the activation of the brain's innate immune system in response to an inflammatory challenge).

### Connection between chronic low back pain and depression in older people

**There is strong evidence that depressive symptoms show a risk of future reporting of back pain onset.**

- ⦿ There is a strong link between low back pain and depression.
- ⦿ Prevalence = 11% to 45%
- ⦿ People over 65 equates to 15% of the population but accounts for 25% of suicides.
- ⦿ 75% of older adults who commit suicide were suffering from a major depression.

### The impact of back-related leg pain on older Australians

**Of those who participated in the BACE:C-A study less than half had sought care for their lower back pain.**

- ⦿ 65.4% self-reported lower leg pain.
- ⦿ 21% had low back pain AND leg pain (from the centre of the buttock down the leg).
- ⦿ Back pain and leg pain was strongly associated with reduced mental and physical quality of life of older people including:
  - Limiting social interactions;
  - Having difficulty lifting or carrying grocery bags;
  - Requiring assistive devices for walking; and,
  - Had fallen in last year.

## The implications of back-related leg pain in older people

Data from the population-based, cross-sectional survey study of 522 community-dwelling older people showed that back-related leg pain (BRLP) is common; and,

- ⦿ It is strongly associated with reduced mental and physical quality of life in older adults;
- ⦿ The effects of the marked reduction in physical and mental quality of life of older people due to BRLP had a subsequent impact on functional capacity, including;
  - LBP plus leg pain = **10 times higher risk of difficulty in social interactions**;
  - **Nearly 6 x increased difficulty** lifting grocery bags;
  - **2 x times greater odds of falling** and increased difficulty lifting grocery bags, walking several blocks, bathing; and,
  - **Less than half sought care for LBP**. Those who did, had poorer health status and greater pain burden.

## Comorbidity – More than one disease or condition impacting the health of older adults

*“Comorbidity” is when a person has more than one disease or condition at the same time. Diseases or conditions described as comorbidities are often chronic or long-term conditions.*

Comorbidities contribute to poor health outcomes and higher health costs including; the costs of fragmented care between hospital stays and outpatient monitoring; health services utilisation; polypharmacy (*the use of five or more medications at the same time*); and, single disease management.

Research from A/Prof de Luca’s PhD, a cross-sectional survey on older people with arthritis, from the Australia Longitudinal Study on Women’s Health, was the first to show a significant incremental increase in the risk of spinal pain associated with increasing comorbidity count, demonstrating that comorbid chronic diseases contribute to allostatic load (*the wear and tear on the body*) which accumulates with a person’s exposure to chronic physiological, biological and/or psychological stress. In this instance, back pain.

### In older women spinal pain is ‘significantly’ associated with an increase in other diseases

In community-dwelling, older women’s spinal pain was significantly associated with individual comorbid conditions (*the number of chronic diseases and conditions experienced at the same time*) including diabetes, cardiovascular disease, pulmonary disease, mental disorders, and overweight or obesity.

Women with spinal pain have significantly poorer health status, lower physical and mental quality of life scores, and have decreased functional ability than women without spinal pain.

A significant incremental increase in the risk of spinal pain associated with an increased comorbidity count in older women is reported in data analysis that identified in older women;

- ⦿ **Over 50% of those with spinal pain reported 2+ comorbidities**;
- ⦿ 56% of those with arthritis had experienced spinal pain in the previous month;
- ⦿ 33% of women with spinal pain had cardiovascular disease;
- ⦿ 20% had some form of mental health disorder; and,
- ⦿ Over 70% of women with spinal pain were classified as overweight or obese.

## The impact of comorbidity on Australian women’s health

Diabetes, cardiac disease, pulmonary disease, mental health disorder and obesity were all found to be **significantly more common among women with spinal pain than in women without spinal pain**.

After adjusting for sociodemographic variables (age, education, ethnicity, marital status, employment, and income etc.), the BACE:C-A study found that in older Australian women spinal pain was significantly associated with the number comorbidities, **with an incremental increase in the risk associated with increasing the comorbidity count**.

## What is the association between spinal pain and chronic health conditions?

Spinal pain is a critical health problem with a multitude of physical and psychosocial comorbidities associated with it. These include;

- ⦿ Functional disability, cognitive impairment and mental health conditions as well as health behaviours with demographic and socioeconomic variables.
- ⦿ Individuals with chronic low back pain have been shown to experience more difficulty in managing their health, particularly in utilising health information on optimising lifestyle habits.
- ⦿ The BACE:C-A found health behaviours such as tobacco use, being physically inactive or insufficiently active, and sleep problems, significantly increased the prevalence odds of developing spinal pain.

## Studies show spinal pain is significantly related to comorbidities

- ⦿ Low back pain is associated with an increased risk of multiple chronic health conditions.
- ⦿ For every additional non-musculoskeletal disorder (MSD) comorbidity, **there is a 40% increase in the risk of developing persistent low back pain.**

## National Health Interview Survey and spinal pain comorbidity

Analysis of data from the USA 2016 - 2018 National Health Interview Survey (26,926 respondents) determined that the prevalence odds of older Americans experiencing spinal pain was significantly increased if they had the four chronic health conditions;

- ⦿ Cardiovascular conditions up by 58%
- ⦿ Hypertension up by 40%
- ⦿ Diabetes up by 25%
- ⦿ Obesity up by 34%

## The most common chronic diseases related to spinal pain

There are many studies that have shown both individual and combination comorbid chronic diseases and conditions to be significantly related to spinal pain including:

- ⦿ Overweight and obesity;
- ⦿ Diabetes; and,
- ⦿ Significantly, pulmonary disease and cardiovascular disease.

## ADDING LIFE TO YEARS: 'Chiropractic contributes to healthy ageing'

### The impact of back pain on older people

- ⦿ Among older people LBP is common and often leads to loss of physical and mental capacities.
- ⦿ For older people, LBP restricts mobility and the ability to participate in society leading to psychosocial impacts.
- ⦿ LBP is also associated with significant comorbidities, higher mortality and is strongly related to a decrease in health-related quality of life, particularly when spine-related leg pain is also present.
- ⦿ Concurrent musculoskeletal pain, loss of mobility, frailty, falls, urinary incontinence and poor sleep are important adverse health outcomes associate with chronic LBP in older people.
- ⦿ Older people require tailored care specific to the needs of the individual.
- ⦿ Addressing CPLBP among older populations can facilitate healthy ageing, so older persons have the functional ability to maintain their own health and wellbeing.



## Spinal pain in older Australians is poorly understood

Currently, the common treatment of low back pain in the majority of older patients conflicts with the conservative care recommendations for effective treatment included in the WHO guideline. This means that for older adults, spinal pain is poorly understood and poorly managed. As a result, older people are significantly burdened by spinal conditions and a range of additional negative implications associated with back pain.

- ⦿ 50% of older low back pain patients are less likely to receive a recommendation for exercise for effective treatment of spinal pain than younger patients; and,
- ⦿ Medications are being recommended for spinal pain in 849 of every 1000 problems in over 55-year-olds - That's 85% of patients who could access improved spinal health outcomes if the recommended treatments were followed by prescribing physicians.

## The importance of drug-free chiropractic treatment for back pain

Although pain medications may offer temporary relief from back pain, recent academic studies reveal that opioids, commonly prescribed for this purpose, do not benefit people with acute low back or neck pain (lasting up to 12 weeks), and have no positive role in treatment of chronic low back pain. What's more, opioids may cause serious side-effects and potential additional problems. While opioids may relieve LBP and neck pain in the short term, longer term outcomes are not improved with opioids.

## Recommended back pain treatments for older Australians - Guidelines for spine care

### Interventions endorsed in the WHO guideline for non-specific low back pain include;

- ⦿ Reassurance, advice, self-management, education, exercise, psychological therapies, non-steroidal anti-inflammatory drugs (NSAIDs), spinal manipulation; and,
- ⦿ **Patients should avoid bed rest.**

### Positive health and economic benefits of endorsed interventions include;

- ⦿ Decreased imaging;
- ⦿ Decreased use of prescribed and over-the-counter medications; and,
- ⦿ There is less emphasis placed on surgical interventions.

## The benefits of non-invasive, drug-free chiropractic healthcare

Chiropractic healthcare is seen as an effective means of resolving or improving pain and functional impairments associated with musculoskeletal disorders (MSDs), playing an important role in healthy ageing enabling older Australians to live healthier, happier and more independent lives.

Importantly chiropractic healthcare is positioned as effective treatment to optimise functional ability, quality of life and wellbeing, while minimising decline during the later years of life providing healthcare that can “*add life to our patient's years*”.

## Chiropractic treatment for older patients

According research from a secondary analysis of COAST and O-COAST data (~7,000 chiropractic consultations):

- ⦿ The most common chiropractic treatment used to treat back pain in older patients was soft tissue therapies.
- ⦿ Exercise advice to manage back pain was provided in 20% of consultations aligning with the WHO guideline recommending exercise and advice to keep active.

## Demographic of older chiropractic patients

- ⦿ 59% of older patients were female;
- ⦿ 25% of these were aged between 75 and 86, while 5% were over 86 years;
- ⦿ Only 3% of patients were NEW, suggesting the majority of older patients had sought chiropractic healthcare previously;
- ⦿ **70% of conditions diagnosed by a chiropractor were for spinal pain; and,**
- ⦿ **Nearly 60% of diagnoses were solely for back problems meaning back pain was by far the most common condition managed by chiropractors in older patients.**

## Older adults seeking chiropractic healthcare

In two combined datasets totaling 7,937 chiropractic clinical consultations, 16% were aged over 65 years.

- ⦿ 57% had a back problem without radiating pain;
- ⦿ 13% had a neck problem;
- ⦿ 5% had a lower limb problem,
- ⦿ 5% had a muscle problem,
- ⦿ 3% had a shoulder problem;
- ⦿ 2% sought chiropractic healthcare for health maintenance; and,
- ⦿ 12% sought chiropractic healthcare for something else.

## Healthy ageing and chiropractic

Chiropractic healthcare can improve the spinal health and overall wellbeing of older Australians by:

- ⦿ Providing pain relief;
- ⦿ Decreasing pain medication use and the possible implications from long-term or overuse;
- ⦿ Increasing independence;
- ⦿ Increasing exercise participation;
- ⦿ Enabling engagement in the community;
- ⦿ Decreasing hospitalisations or institutionalisations; and,
- ⦿ Improving quality of life.

## The benefits of exercise in the prevention of osteopenia and osteoporosis

**Regular physical activity and exercise is recognised as one of the most effective strategies to maximise peak bone mass and reduce the risk of fractures in older Australians.**

In middle aged and older adults, there is evidence that exercise programs including a combination of progressive resistance training with a variety of moderate impact weight-bearing activities are most effective for increasing bone density or preventing age-related bone loss.

For resistance training, it is important to focus on training muscle groups connected to bones of relevance to osteoporotic fracture such as the spinal extensor muscles, hip abductors, hip extensors, knee extensors, knee flexors, as well as those related to gait and balance (ankle plantar flexors and dorsiflexors, inverters and everters, hip abductors).

Recommendations to increase bone density and prevent bone loss associated with menopause and ageing include:

- ⦿ Regular weight-bearing exercise and progressive resistance training.
- ⦿ High challenging balance and mobility training is also effective for improving balance, gait and co-ordination, which can reduce the risk of falling.
- ⦿ Exercise can also help speed rehabilitation following a fracture.

## The exercises some older Australians should avoid

**IMPORTANT: Moderate to high impact activities are only recommended for people with osteoporosis who do not have a previous fracture(s) or lower limb arthritis.**

While weight bearing exercise is known to be beneficial in strengthening bones, **older Australians should AVOID:**

- ⦿ **Forward flexion - bending over holding an object and sit ups with straight legs.**
- ⦿ **Twisting of the spine as this can increase risk of anterior vertebral compression fractures.**

**Exercise prescription for bone health can help prevent osteoporosis as well as other spinal health disorders including back pain**

Population	Bone status	Exercise prescription	Effect
<b>Post menopausal women</b>	Bone loss accelerates up to 2-4% per year at the onset of menopause	Moderate-high impact weight-bearing exercise and high intensity progressive resistance training * Leisure Walking	Maintain bone strength (slow the rate of bone loss following menopause). Improve muscle function, balance and reduce falls risk.
<b>Older adults without osteoporosis</b>	After 75 years of age, bone loss occurs primarily in the neck of the femur.	Multi-modal exercise programs = weight-bearing activities, progressive resistance training and balance activities.	Maintain bone strength and increase muscle strength, balance and co-ordination. Prevent falls.
<b>Older adults with osteoporosis and history of fracture</b>	Increasingly thin and fragile.	Weight-bearing exercise with supervised progressive resistance training, and balance and mobility exercises. <b>*AVOID forward flexion</b>	Improve general health, muscle strength, balance and posture. Reduce the risk of further falls and/or fractures.

## ACA's chiropractic healthcare aligns with the WHO guideline for back pain in older people

With its findings focussed on individualised holistic healthcare, the WHO's research aligns with the heart of the Australian Chiropractors Association's core philosophy - that patient education and self-care strategies, tailored exercise programs and physical therapies including chiropractic spinal manipulative therapy, and massage; can provide effective, evidence-based holistic drug-free solutions for back pain sufferers.

And although the WHO research determined that in some cases, non-steroidal anti-inflammatory medications may assist sufferers in some instances in the short-term; in line with the University of Sydney's study (*Lancet medical journal, 23 June 2023*), the WHO recommends against the commonly prescribed use of opioids and paracetamol to treat LBP as these medications have proven largely ineffective and come with a range of significant associated risks and side effects.

## WHO GUIDELINE - For non-surgical management of chronic primary low back pain in adults in primary and community care settings.

In December 2023, the World Health Organisation (WHO) published the first ever guideline released by the WHO aimed at addressing **Chronic Primary Low Back Pain (CPLBP)**. The guideline is based on in depth research and was written by a world-wide range of neuro-musculoskeletal health practitioners including chiropractors.

For people who experience persistent **Low Back Pain (LBP)**, their ability to participate in family, social, and work activities is often reduced, which can negatively affect their mental health and bring substantial costs to families, communities, and health systems. Those who experience CPLBP, particularly older people, are more likely to experience poverty, a premature exit from the workforce and accumulate less retirement wealth.

The purpose of the WHO guideline is to provide evidence-based recommendations on non-surgical interventions for chronic primary LBP (CPLBP) in adults including older people, to improve health and wellbeing outcomes. The guidelines supports other WHO activities to improve outcomes for adults with LBP and supports the WHO Integrated care for older people (ICOPE) approach in primary healthcare.

Optimising the clinical management of people with CPLBP is a current priority for WHO Member States.

## Key Recommendations

**WHO recommends non-surgical interventions in the treatment of CPLBP through an integrated, person-centred approach.** This approach includes education programs that supports knowledge and self-care strategies; exercise programs; some physical therapies, such as (chiropractic) spinal manipulative therapy and massage; psychological therapies, such as cognitive behavioural therapy; and, in some cases, non-steroidal anti-inflammatory medicines. However, it's important to note that the common use of opioids and paracetamol prescribed to treat LBP is NOT recommended as these medications are largely ineffective in treating LBP and come with a range of associated risks.

## WHO GUIDELINE – LBP KEY POINTS

- ⦿ LBP is currently the leading cause of disability world-wide across both sexes and is considered a global public health issue by the WHO.
- ⦿ LBP is a very common condition experienced by most people across their life course.
- ⦿ In 2020, approximately one in 13 people globally experienced LBP, equating to an estimated 619 million people – representing a 60% increase in cases since 1990.
- ⦿ Between 1990 and 2020, global disability estimates attributed to LBP increased by around 60%.
- ⦿ Cases of LBP are expected to rise to an estimated 843 million by 2050.
- ⦿ Often LBP is recurrent and acute episodes become more frequent in older age.
- ⦿ In some people, concurrent spine-related leg pain may also be experienced.
- ⦿ Those who suffer from LBP can benefit from an integrated, person-centred rehabilitation approach.
- ⦿ LBP is a primary reason why people consult a chiropractor for a person-centred, non-surgical, drug-free approach to effective treatment.
- ⦿ Chiropractic healthcare is recommended as a first-line approach to LBP treatment.

## Chronic Primary Low Back Pain (CPLBP)

- ⦿ For those who experience persisting LBP symptoms beyond three months, this is defined as chronic primary low back pain (CPLBP) – a non-sinister non-pathological cause of back pain.
- ⦿ CPLBP is the name given by the WHO replacing 'non-specific low back pain'.
- ⦿ Over 90% of back pain in sufferers is due to CPLBP.
- ⦿ CPLBP is often associated with a reduced ability to participate in family, social and work roles, and incurs major costs to families, communities and health systems.
- ⦿ WHO's non-surgical management of CPLBP provides a patient-centred approach with treatment of chronic low back pain including:
  - ⦿ Spinal manipulative therapy – hands on care provided by chiropractors
  - ⦿ Person centred care relating to a suite of activities including:
    - Patient activities - diet, rest, mental attitude and exercise are critical.
    - Chiropractic healthcare - manual, physical interventions (chiropractic adjustments)

## The Impact of LBP on Older People

- ⦿ Among older people LBP is common and often leads to loss of physical and mental capacities.
- ⦿ For older people, LBP restricts mobility and the ability to participate in society leading to psychosocial impacts.

- ⦿ LBP is also associated with significant comorbidities, higher mortality and is strongly related to a decrease in health-related quality of life, particularly when spine-related leg pain is also present.
- ⦿ Concurrent musculoskeletal pain, loss of mobility, frailty, falls, urinary incontinence and poor sleep are important adverse health outcomes associate with chronic LBP in older people.
- ⦿ Older people require tailored care specific to the needs of the individual.
- ⦿ Addressing CPLBP among older populations can facilitate healthy ageing, so older persons have the functional ability to maintain their own health and wellbeing.

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## ADDITIONAL LINKS

Global, regional, and national burden of low back pain, 1990–2020, its attributable risk factors, and projections to 2050: a systematic analysis of the Global Burden of Disease Study 2021: [https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913\(23\)00098-X/fulltext](https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913(23)00098-X/fulltext)

Musculoskeletal Australia - The rising cost of musculoskeletal conditions: <https://msk.org.au/a-problem-worth-solving/#:~:text=This%20groundbreaking%20report%20details%20the,and%20reduced%20quality%20of%20life>

The profile of older adults seeking chiropractic care: a secondary analysis: <https://bmgeriatr.biomedcentral.com/articles/10.1186/s12877-021-02218-6>

TGA decision to reduce paracetamol pack sizes:

[www.tga.gov.au/news/media-releases/tga-makes-final-decision-reduce-paracetamol-pack-sizes](http://www.tga.gov.au/news/media-releases/tga-makes-final-decision-reduce-paracetamol-pack-sizes)

University of Sydney - Opioids ineffective for acute low back or neck pain: Study: <https://www1.racgp.org.au/newsgp/clinical/opioids-ineffective-for-acute-low-back-or-neck-pai#:~:text=and%20neck%20pain,-,Opioids%20are%20the%20one%20of%20the%20most%20prescribed%20pain%2Drelief,prescribed%20opioids%20such%20as%20oxycodone>

WHO guideline for non-surgical management of chronic primary low back pain in adults in primary and community care settings. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO: <https://www.who.int/news/item/07-12-2023-who-releases-guidelines-on-chronic-low-back-pain#:~:text=LBP%20affects%20life%20quality%20and,accumulate%20less%20wealth%20for%20retirement.>

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