



World Health
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WHO guideline for non-surgical management of chronic primary low back pain in adults in primary and community care settings

Executive summary

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Executive summary

Introduction

Low back pain (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; this represents a 60% increase in cases since 1990. Within this same period, absolute global disability estimates attributed to LBP have increased by about the same amount, being largely ascribed to population growth and ageing, with the largest increases observed in low- and middle-income countries. LBP is currently the leading cause of disability globally across all ages and in both sexes, while prevalence and disability estimates are consistently higher in females and older people. Among health conditions that may benefit from rehabilitation, LBP is the condition which represents the greatest number of people for whom benefits may be experienced. For these reasons, among others, LBP is an important global public health issue.

The prevalence, health burden and economic cost associated with LBP care and participation restriction continue to rise, care variation and critical knowledge and skills gaps among health workers persist, and delivery of care that is not evidence-based remains commonplace. No guideline has been produced that considers management of chronic LBP in adults, and in particular for older people, from a global public health perspective that takes into account universal health coverage (UHC) and the different levels of economic development across countries. The present guideline fills this gap, supports other activities undertaken by WHO in improving outcomes for adults with LBP and

supports the [WHO Integrated care for older people \(ICOPE\)](#) approach in primary care – one of the action areas of the UN Decade of Healthy Ageing (2021–2030).

Most people who experience an episode of acute LBP experience time-limited, low-to-moderate levels of disability and a favourable clinical course. Often, the experience of LBP is recurrent, and acute episodes become more frequent in older age. In some people, concurrent spine-related leg pain may also be experienced. There is a group of people who experience persisting symptoms beyond three months, which is defined as chronic LBP. Chronic LBP 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. People who experience chronic LBP, particularly older people, are more likely to experience poverty, prematurely exit the workforce and accumulate less retirement wealth. In all settings, disabling LBP and early retirement owing to chronic symptoms are more common among people with lower socioeconomic status, thus contributing to poverty and inequity. Optimizing the clinical management of people with chronic LBP is therefore a current priority for Member States.

Among older people, an experience of LBP is common and often gives rise to loss of physical and mental capacities (i.e. intrinsic capacity). For many older people, LBP is particularly burdensome because it restricts mobility and thus the ability to participate in society, thereby leading to psychosocial impacts. It is also associated with significant

comorbidities and 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 associated with chronic LBP in older people.

Purpose, scope and target audience

The purpose of the guideline is to provide evidence-based recommendations on non-surgical interventions for chronic primary LBP (CPLBP) in adults, including older people, that can be delivered in primary and community care settings to improve CPLBP-related health and well-being outcomes. For this reason, the guideline does not consider interventions typically delivered in secondary or tertiary care settings (e.g. surgical or other invasive procedures) or workplace interventions.

The target audience is health workers of all disciplines working in the primary and community care settings. In this context, the guideline is intended to be discipline neutral. The guidelines will be of use to clinical staff including medical doctors, nurses, allied health workers including chiropractors, occupational therapists, physiotherapists, pharmacists, psychologists and community health workers, as well as public health programme and system managers.

Chronic primary low back pain (CPLBP)

A persistent or recurrent pain experience of more than three months that is not reliably attributed to an underlying disease process or structural lesion.

Five classes of interventions for the management of CPLBP in adults were considered for the guideline: A) standardized and structured education; B) physical interventions; C) psychological interventions; D) medicines; and E) multicomponent interventions.

The guideline addresses the following overarching question:
“What are the health and well-being benefits and harms of non-surgical interventions in the management of chronic primary low back pain, with or without spine-related leg pain, in community-dwelling adults in primary or community care settings, including older people (60 years and older), compared with placebo, no intervention or usual care?”

The guideline does not consider surgical interventions, invasive intraspinal interventions or workplace interventions for people with CPLBP, primary prevention interventions for LBP, management of acute LBP or interventions for chronic secondary LBP.

Guideline development methods

The guideline was developed in accordance with the process described in the [WHO handbook for guideline development](#). The development process was coordinated by the Ageing and Health Unit, with methods advice provided by an independent guidelines methodologist and governance oversight provided by the internal WHO Steering Group and WHO Guideline Review Committee. The external Guideline Development Group (GDG) was responsible for refining the scope of the guideline and defining the population,

priority interventions for systematic evidence reviews, comparators and critical outcomes. The Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach was used to appraise the certainty of the quantitative evidence for benefits and harms of each prioritized intervention. An evidence synthesis of qualitative studies examining the values and preferences for, and acceptability and feasibility of, the interventions and their outcomes from the perspective of older people was commissioned to support the GDG in formulating recommendations. Confidence in qualitative evidence synthesis findings was appraised using the GRADE-CERQual method. The GDG participated in three meetings to review and interpret evidence and formulate recommendations. The GDG formulated recommendations for each intervention based on the GRADE Evidence-to-Decision (EtD) approach for public health interventions. The independent methodologist guided the GDG in interpreting the evidence of benefits and harms, understanding GRADE certainty-of-evidence assessments and translating evidence into recommendations. This included assessment of the effects (balance of benefits and harms) of interventions on outcomes for people with CPLBP, and consideration of other EtD domains: the values and preferences of people with CPLBP and their families and health workers relating to the interventions and their outcomes, as well as the acceptability and feasibility of the interventions, resources required and equity. The GDG was responsible for determining the worthwhile benefit and risk of harm for an intervention based on effect-size estimates from the systematic reviews and other factors related to the delivery and accessibility of an intervention.

In general, conditional recommendations were made when overall certainty was low or very low, and/or when the judgements in other domains indicated variability or uncertainty. Conditional recommendations in favour suggest the intervention is recommended in most situations, but will not be suitable for everyone and, therefore, shared decision-making and considering appropriateness in certain populations or settings will be required. Conditional recommendations against use suggest the intervention is not recommended in most circumstances, since the harms (or other negative consequences beyond adverse health outcomes) probably outweigh the benefits. A good practice statement reflects a body of indirect evidence that is difficult to summarize and indicates that the desirable consequences of the intervention far outweigh its undesirable consequences and, as such, the intervention is recommended. For each intervention, WHO provides a recommendation other than in circumstances where no evidence was available, where the evidence was too limited to make a judgement, or where the balance between benefits and harms was so equivocal that a judgement could not be made with confidence.

Recommendations









The guideline considers 37 interventions across five intervention classes. There are 24 recommendations, one good practice statement and 12 interventions for which no recommendation was made (*Table 1*). Each recommendation is relevant to community-dwelling adults experiencing CPLBP, with or without spine-related leg pain. While the population definition allowed for the inclusion of comorbid spine-related leg pain, the GDG was not able to confidently interpret the effects of interventions in






subpopulations with and without spine-related leg pain, since classification systems varied across trials and some trials did not report on spine-related leg pain prevalence. Where the included trials report outcomes separately for older people or included older people (adults aged 60 years and over) in their mean age range, or where evidence (direct or indirect) of harms is also relevant to older people, the recommendations also refer to older people. The GDG provided supporting commentaries for its recommendations. These remarks or key considerations are intended to contextualize the recommendations and provide additional guidance for implementation into practice. The GDG foregrounded its recommendations around four guiding principles: i) holistic and person-centred care; ii) equity; iii) care that is non-stigmatizing and non-discriminatory; and iv) integrated and coordinated care. Clinical practice considerations have also been formulated to support interpretation and translation of the recommendations into practice, service delivery and policy. These broadly include: i) arranging clinical assessment and timely referral, where indicated; ii) providing personalized information and advice; iii) delivering interventions that address the range of factors contributing to a person's CPLBP experience; and iv) selecting and sequencing interventions according to the needs and preferences of the person with

CPLBP. For medicines, the GDG foregrounded its recommendations with supporting commentaries around safe medication practices applicable to all medicines, with additional attention to opioid analgesics.

Twelve “no recommendations” were made. The balance between benefits and harms for three psychological interventions and non-pharmacological weight loss were so equivocal that a recommendation could not be made. The GDG judged that there was insufficient evidence to make a recommendation for five herbal medicines, while no evidence was available concerning the therapeutic use of three medicines to allow recommendations for these products to be formulated: paracetamol (acetaminophen), benzodiazepines and cannabis-related pharmaceutical preparations. Nonetheless, the GDG considered it important to provide guidance on the use of these three products in particular, given their use in clinical practice (see *Box 1*).

Table 1: WHO recommendations for non-surgical management of CPLBP in adults in primary and community care settings.

Intervention by class	Recommendation (strength, direction and certainty of the evidence)
A: EDUCATION	
A.1 Structured and standardized education and/or advice	 Structured and standardized education and/or advice interventions may be offered as part of care to adults, including older people, with CPLBP. <i>(conditional recommendation in favour of use, very low certainty evidence)</i>
B: PHYSICAL INTERVENTIONS	
B.1 Structured exercise therapies or programmes	 A structured exercise therapy or programme may be offered as part of care to adults, including older people, with CPLBP. <i>(conditional recommendation in favour of use, low certainty evidence)</i>
B.2 Needling therapies (traditional Chinese medicine acupuncture and other dry needling modalities)	 Needling therapies such as acupuncture may be offered as part of care to adults, including older people, with CPLBP. <i>(conditional recommendation in favour of use, low certainty evidence)</i>
B.3 Spinal manipulative therapy	 Spinal manipulative therapy may be offered as part of care to adults, including older people, with CPLBP. <i>(conditional recommendation in favour of use, very low certainty evidence)</i>
B.4 Massage	 Massage may be offered as part of care to adults, including older people, with CPLBP. <i>(conditional recommendation in favour of use, very low certainty evidence)</i>
B.5 Traction	 Traction should not be used as part of routine care for adults, including older people, with CPLBP. <i>(conditional recommendation against use, very low certainty evidence)</i>
B.6 Therapeutic ultrasound	 Therapeutic ultrasound should not be used as part of routine care for adults, including older people, with CPLBP. <i>(conditional recommendation against use, low certainty evidence)</i>
B.7 Transcutaneous electrical nerve stimulation (TENS)	 Transcutaneous electrical nerve stimulation (TENS) should not be used as part of routine care for adults, including older people, with CPLBP. <i>(conditional recommendation against use, very low certainty evidence)</i>

Map of interventions, by class, with colour-coding representing recommendations formulated by the GDG. **Green**  indicates a conditional recommendation in favour of use of the intervention; **red**  indicates a conditional recommendation against the use of the intervention; **amber**  indicates a good practice statement; **grey**  indicates that no recommendation was made for the intervention; and **white**  indicates that no, or inadequate, evidence was identified for the intervention and hence no EtD process could be undertaken or recommendation formulated.

B.8 Assistive products

- B.8.1 Lumbar braces, belts and/or supports** Lumbar braces, belts and/or supports should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*
- B.8.2 Mobility assistive products** Quality, affordable mobility assistive products should be offered to adults, including older people, with CPLBP, based on a person-centred assessment. *(good practice statement in favour of use)*

C: PSYCHOLOGICAL INTERVENTIONS

- C.1 Operant therapy** Operant therapy may be offered as part of care to adults, including older people, with CPLBP. *(conditional recommendation in favour of use, very low certainty evidence)*
- C.2 Respondent therapy** The balance between the benefits and harms for respondent therapy in managing CPLBP in adults, including older people, is so equivocal that a recommendation cannot be made. *(no recommendation, very low certainty evidence)*
- C.3 Cognitive therapy** The balance between the benefits and harms for cognitive therapy in managing CPLBP in adults, including older people, is so equivocal that a recommendation cannot be made. *(no recommendation, very low certainty evidence)*
- C.4 Cognitive behavioural therapy (CBT)** Cognitive behavioural therapy (CBT) may be offered as part of care to adults, including older people, with CPLBP. *(conditional recommendation in favour of use, very low certainty evidence)*
- C.5 Mindfulness-based stress reduction therapy** The balance between the benefits and harms for mindfulness-based stress reduction therapy in managing CPLBP in adults, including older people, is so equivocal that a recommendation cannot be made. *(no recommendation, low certainty evidence)*

D: MEDICINES

D.1 Systemic pharmacotherapies

- D.1.1 Opioid analgesics** Opioid analgesics should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, moderate certainty evidence)*
- D.1.2 Non-steroidal anti-inflammatory drugs (NSAIDs)** NSAIDs may be offered as part of care to adults with CPLBP. *(conditional recommendation in favour of use, moderate certainty evidence)*
- D.1.3 Serotonin and noradrenaline reuptake inhibitor (SNRI) antidepressants** SNRI antidepressants should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, low certainty evidence)*

- D.1.4 Tricyclic antidepressants** ○ Tricyclic antidepressants should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*
- D.1.5 Anticonvulsants** ○ Anticonvulsants should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*
- D.1.6 Skeletal muscle relaxants** ○ Skeletal muscle relaxants should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*
- D.1.7 Glucocorticoids** ○ Glucocorticoids should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*
- D.1.8 Paracetamol (acetaminophen)** ○ No recommendation. There were no trials identified that evaluated the benefits or harms of paracetamol (acetaminophen) in the management of CPLBP in adults. *(no recommendation, refer to Box 1: Key considerations)*
- D.1.9 Benzodiazepines** ○ No recommendation. There were no trials identified that evaluated the benefits or harms of benzodiazepines in the management of CPLBP in adults. *(no recommendation, refer to Box 1: Key considerations)*
- D.2 Cannabis-related pharmaceutical preparations for therapeutic use** ○ No recommendation. There were no trials identified that evaluated the benefits or harms of cannabis-related pharmaceutical preparations for therapeutic use in the management of CPLBP in adults. *(no recommendation, refer to Box 1: Key considerations)*
- D.3 Injectable local anaesthetics** ○ Injectable local anaesthetics should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*
- D.4 Herbal medicines**
- D.4.1 Topical Cayenne pepper (*Capsicum frutescens*)** ○ Topical Cayenne pepper (*Capsicum frutescens*) may be offered as part of care to adults with CPLBP, including older people. *(conditional recommendation in favour of use, low certainty evidence)*
- D.4.2 Devil's claw (*Harpagophytum procumbens*)** ○ Devil's claw (*Harpagophytum procumbens*) should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*

- D.4.3 White willow (*Salix spp.*)** White willow (*Salix spp.*) should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, low certainty evidence)*
- D.4.4 Topical Brazilian arnica (*Solidago chilensis*)** No recommendation. The evidence regarding the benefits and harms of topical Brazilian arnica (*Solidago chilensis*) in managing CPLBP in adults is insufficient to formulate a recommendation. *(no recommendation, very low certainty evidence)*
- D.4.5 Ginger (*Zingiber officinale* Roscoe)** No recommendation. The evidence regarding the benefits and harms of Ginger (*Zingiber officinale* Roscoe) in managing CPLBP in adults is insufficient to formulate a recommendation. *(no recommendation, very low certainty evidence)*
- D.4.6 Topical white lily (*Lilium candidum*)** No recommendation. The evidence regarding the benefits and harms of topical white lily (*Lilium candidum*) in managing CPLBP in adults is insufficient to formulate a recommendation. *(no recommendation, very low certainty evidence)*
- D.4.7 Topical combination herbal compress^a** No recommendation. The evidence regarding the benefits and harms of a topical combination herbal compress in managing CPLBP in adults is insufficient to formulate a recommendation. *(no recommendation, very low certainty evidence)*
- D.4.8 Topical combination herbal transdermal diffusional patch^b** No recommendation. The evidence regarding the benefits and harms of a topical combination herbal transdermal patch in managing CPLBP in adults is insufficient to formulate a recommendation. *(no recommendation, very low certainty evidence)*

E: MULTICOMPONENT INTERVENTIONS

- E.1.1 Weight management: pharmacological weight loss** Pharmacological weight loss should not be used as part of routine care for adults, including older people, with CPLBP. *(conditional recommendation against use, very low certainty evidence)*
- E.1.2 Weight management: non-pharmacological weight loss** No recommendation. The balance between the benefits and harms for non-pharmacological weight loss in managing CPLBP in adults, including older people, is so equivocal that a recommendation cannot be made. *(no recommendation, very low certainty evidence)*
- E.2 Multicomponent biopsychosocial care** Multicomponent biopsychosocial care delivered by a multidisciplinary team may be offered as part of care for adults, including older people, with CPLBP. *(conditional recommendation in favour of use, low certainty evidence)*

^a *Zingiber cassumunar* Roxb. rhizomes, *Curcuma longa* L. rhizomes, *Cymbopogon citratus* (DC.), *Stapf* leaves and leaf sheaths, *Croton roxburghii* N.P.Balakr. leaves, *Tamarindus indica* L. leaves, *Citrus hystrix* DC. peels, *Blumea balsamifera* (L.) DC. leaves, *Vitex trifolia* L. leaves and camphor.

^b *Oleum thymi*, *Oleum limonis*, *Oleum nigra*, *Oleum rosmarini*, *Oleum chamomilla* and *Oleum lauri* expressum.

Box 1:**Key considerations for paracetamol (acetaminophen), benzodiazepines and cannabis-related pharmaceutical preparations for therapeutic use.**

Paracetamol (acetaminophen) is associated with potential cardiovascular, renal and gastrointestinal harms and increased mortality risk, particularly in older people with hepatic or renal impairment. Although paracetamol is commonly used as a first-line analgesic medicine, available evidence for its use in acute LBP suggests it is not superior to placebo in reducing pain, and there is no biological reason why a different effect would be observed in CPLBP.

Benzodiazepines are associated with potential harms including memory impairment, misuse, overdose deaths from respiratory depression, somnolence, fatigue and light-headedness potentially leading to falls. Other complications of long-term use of benzodiazepines include development of tolerance, dependence and withdrawal syndrome particularly after abrupt cessation, which can be life-threatening. The unknown efficacy of benzodiazepines in CPLBP and risk of harms suggests benzodiazepines would not be an appropriate first-line medicine choice for CPLBP.

Cannabis-related pharmaceutical preparations for therapeutic use are not likely to be an appropriate first-line medicine for the management of CPLBP due to a lack of direct evidence of benefit in this condition and evidence of possible adverse events, including harms associated with its non-medicinal use.

Interpreting recommendations and their implementation

The recommended interventions are intended to be implemented by countries as a suite of likely effective intervention options to support adults with CPLBP. Given the multifactorial and complex aetiology of CPLBP, a single intervention in isolation may be inadequate to confer benefit, thereby rationalizing the need to provide a suite of effective intervention options from

which health workers can select, tailor and sequence according to the unique needs, preferences and circumstances of individuals, guided by a biopsychosocial perspective and the context of the local health system. For those interventions with conditional against recommendation, discontinuation of routine delivery is recommended in most situations.

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