



# HIP OSTEOARTHRITIS IN PRIMARY HEALTH CARE: CONSERVATIVE MANAGEMENT STRATEGIES, CURRENT EVIDENCE, AND CHALLENGES IN CHILE

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## ABSTRACT

**Introduction:** Hip osteoarthritis is a common degenerative disease that can cause pain, functional limitation, and deterioration in quality of life. Primary Health Care plays a fundamental role in its initial diagnosis, conservative treatment, and follow-up.

**Objective:** To review the current evidence on the main conservative management strategies for hip osteoarthritis in Primary Health Care and to analyze the main challenges associated with their implementation in the Chilean context.

**Methodology:** A narrative review of the literature was conducted through searches in PubMed/MEDLINE and SciELO, complemented by official documents from the Chilean Ministry of Health. Systematic reviews, meta-analyses, clinical trials, and relevant studies addressing diagnosis, therapeutic exercise, education, weight control, pharmacological treatment, injections, and the organization of primary care were prioritized.

**Results:** The evidence supports a multimodal management approach based primarily on therapeutic exercise, self-management education, and modification of risk factors, including weight control when appropriate. Nonsteroidal anti-inflammatory drugs may contribute to symptomatic control in selected patients, while intra-articular corticosteroid injections may provide short-term relief. In Chile, the integration of rehabilitation services into Primary Health Care represents a relevant strategy for expanding access, although challenges remain regarding resource availability, continuity of care, and coordination with specialized care.

**Conclusions:** The management of hip osteoarthritis in Primary Health Care should prioritize non-pharmacological interventions and an individualized, multimodal approach. Strengthening rehabilitation, patient education, and coordination between Primary Health Care and specialized care may contribute to improving the timeliness and continuity of care in Chile.

**KEYWORDS:** Hip osteoarthritis; Primary Health Care; Conservative Treatment; Therapeutic Exercise; Rehabilitation; Chile.

## INTRODUCTION

Hip osteoarthritis is a chronic and progressive musculoskeletal disease characterized by pain, stiffness, and deterioration of joint function, with a significant impact on mobility, independence, and quality of life. Its frequency increases with age and is associated with several risk factors, including obesity, a history of joint injury, and structural abnormalities of the hip. Due to its chronic nature, treatment requires a comprehensive approach aimed not only at pain control but also at preserving function and reducing disability. International recommendations consider therapeutic exercise, patient education, and body-weight management among the main components of non-surgical treatment for hip osteoarthritis(1).

Primary Health Care (PHC) plays a fundamental role in the identification, education, initial treatment, and follow-up of people with hip osteoarthritis. At this level of care, interventions such as structured education, therapeutic exercise, promotion of physical activity, and management of overweight or obesity can be implemented, in addition to pharmacological treatment when indicated. In Chile, the Ministry of Health guideline establishes recommendations for people aged 55 years and older with mild or moderate hip and/or knee osteoarthritis, indicating that they may receive care at primary, secondary, and tertiary levels, with the participation of a multidisciplinary team(2).

Despite the availability of conservative strategies, their implementation in clinical practice may be hindered by difficulties related to access to and continuity of interventions,



patient adherence, availability of rehabilitation professionals, and integration between different levels of care. The available evidence supports the value of interventions such as education, exercise, and dietary management, although it also highlights the need to strengthen evidence regarding their implementation and cost-effectiveness in different healthcare settings. In this context, analyzing the conservative management of hip osteoarthritis from the perspective of Chilean PHC makes it possible to identify interventions supported by current evidence while recognizing the main barriers to their effective implementation in clinical practice(3).

## METHODOLOGY

A narrative review of the literature on the conservative management of hip osteoarthritis in Primary Health Care was conducted, with emphasis on the available evidence and its applicability to the Chilean context. The bibliographic search was performed in the PubMed/MEDLINE and SciELO databases, supplemented by official documents from the Chilean Ministry of Health when necessary to contextualize aspects related to Primary Health Care and health policies.

Terms related to *hip osteoarthritis*, *hip osteoarthritis management*, *conservative treatment*, *primary health care*, *exercise*, *weight loss*, *intra-articular injections*, and *Chile* were used and combined through Boolean operators. Systematic reviews, meta-analyses, clinical trials, and relevant observational studies were prioritized, particularly publications from the last 10 years, without excluding earlier studies considered fundamental to the topic.

Studies were selected according to their relevance to the objectives of the review, primarily considering evidence on diagnosis, therapeutic exercise, education, weight control, pharmacological treatment, injections, and the organization of care in Primary Health Care. Finally, the information was synthesized narratively, integrating international evidence with the available information regarding the Chilean healthcare system.

## DEVELOPMENT

### Magnitude and Epidemiology

Hip osteoarthritis represents an important cause of pain and disability worldwide, and its frequency progressively increases with age. A systematic review and meta-analysis including 31 studies and more than 326,000 participants estimated a worldwide prevalence of radiographic hip osteoarthritis of 8.55% when a Kellgren-Lawrence grade  $\geq 2$  was used. Prevalence showed a clear relationship with age and substantial regional variations, with higher estimates in Europe and North America. These findings demonstrate that hip osteoarthritis constitutes a relevant public health problem, particularly in aging populations(4).

In Chile, the 2016–2017 National Health Survey estimated a prevalence of hip osteoarthritis of approximately 9% among people aged 55 years or older, equivalent to approximately 385,426 individuals. Prevalence was higher among FONASA beneficiaries, reaching approximately 10.3%, compared with 2.7% among individuals affiliated with ISAPRE. These data should be interpreted considering that they represent population estimates based on survey information and

do not necessarily correspond to cases confirmed according to radiographic criteria(2).

The disease burden is also associated with potentially modifiable factors, particularly excess weight and physical inactivity. In a Chilean cohort of 1,159 women followed for a median of 27.6 years, the presence of hip, knee, or combined hip and knee osteoarthritis reached 24.3% at the end of follow-up. The study identified obesity and certain occupational characteristics as factors associated with an increased risk of osteoarthritis, reinforcing the importance of preventive interventions and the promotion of healthy lifestyles from Primary Health Care. However, these findings correspond to a specific cohort of women and should not be directly extrapolated to the entire Chilean population(5).

Finally, the relevance of hip osteoarthritis will likely increase in the coming decades due to population aging and the increasing prevalence of risk factors such as excess weight. Global Burden of Disease analyses have demonstrated a sustained increase in the global burden of osteoarthritis and project that the number of hip osteoarthritis cases could increase by approximately 78.6% between 2020 and 2050. This scenario reinforces the need to strengthen prevention, conservative treatment, and follow-up strategies in PHC, with the aim of maintaining functional capacity and delaying, whenever possible, progression to advanced disease and eventual joint replacement(6).

### Diagnosis and Initial Evaluation in Primary Care

The diagnosis of hip osteoarthritis in Primary Health Care should begin with a focused medical history and physical examination. The most characteristic symptoms include pain localized to the groin or around the hip, usually associated with activity, together with progressive functional limitation. On physical examination, restricted range of motion, particularly internal rotation, and reproduction of pain with hip movements increase the likelihood of the diagnosis. A systematic review of clinical assessment found that certain features of the history and physical examination can significantly modify the probability of hip osteoarthritis, suggesting that a structured clinical evaluation may be sufficient to establish a high diagnostic suspicion before imaging studies are obtained(7).

During the physical examination, limited internal rotation is one of the most useful findings for suspecting hip osteoarthritis. Flexion, abduction, and adduction should also be assessed, as well as pain at the end of the range of motion, gait, and the functional impact on activities such as walking, climbing stairs, putting on shoes, or rising from a chair. A prospective study that developed a clinical prediction rule demonstrated that the combination of several physical examination findings could identify patients with radiographic osteoarthritis with a high probability, although the authors noted that the rule required validation before routine application(8).

Clinical assessment should also consider differential diagnoses when the presentation is atypical. Predominantly nocturnal pain, systemic symptoms, a history of significant trauma, rapid loss of function, disproportionate pain, or an atypical distribution of symptoms may warrant further investigation. The correlation between symptoms and structural findings is also imperfect: radiographic osteoarthritic changes do not always directly correlate with pain intensity or disability.

Therefore, PHC assessment should focus on the combination of symptoms, function, and physical examination rather than interpreting an isolated image as equivalent to clinical severity(7).

When the clinical presentation is inconclusive or another disease is suspected, plain radiography remains the primary imaging tool for assessing structural changes of the hip. Radiographic evaluation may demonstrate joint-space narrowing, osteophytes, subchondral sclerosis, and alterations in joint morphology. However, radiographic abnormalities should be interpreted together with the clinical findings because structural abnormalities and symptoms are discordant in a proportion of patients. Magnetic resonance imaging and other imaging techniques have a more specific role when alternative diagnoses or certain abnormalities that cannot be adequately characterized by conventional radiography need to be investigated(9).

Therefore, the initial PHC evaluation should establish not only the presence of osteoarthritis but also its functional impact and the modifiable factors that may influence the clinical course. Physical activity level, body weight, comorbidities, ability to perform activities of daily living, previous treatments, and patient expectations should be considered. This information allows individualized therapeutic goals to be established and provides the basis for initiating conservative management, which should constitute the cornerstone of initial treatment in most patients with uncomplicated symptomatic disease(10).

**Figure 1. Anteroposterior radiograph of the hip showing radiographic changes consistent with hip osteoarthritis.**



Source: the authors.

## CONSERVATIVE MANAGEMENT

### Therapeutic Exercise

Therapeutic exercise is one of the main non-pharmacological interventions for hip osteoarthritis. A systematic review and meta-analysis published in 2023, which included 18 randomized clinical trials, found that exercise reduced pain and improved function both immediately after treatment and during follow-up at 6–9 months. However, the magnitude of the effects was generally small, and the benefits should therefore be interpreted considering individual patient characteristics and adherence to the program. These results

support the incorporation of exercise as a central component of conservative treatment in PHC(11).

Exercise programs may include muscle strengthening, mobility exercises, and aerobic activity, and should be adapted to the patient's functional capacity, symptoms, and goals. A meta-analysis of 77 clinical trials involving individuals with hip or knee osteoarthritis found significant benefits of exercise on pain, function, physical performance, and quality of life, with particularly evident effects during the first eight weeks. The progressive reduction in effect over time further highlights the importance of maintaining physical activity and promoting long-term adherence rather than considering exercise as an intervention limited to a short rehabilitation period(12).

More recent evidence also suggests that the effects of exercise do not depend exclusively on a specific type of program. A meta-analysis published in 2025 found that physical exercise may improve pain, functional mobility, and quality of life in people with hip osteoarthritis. This supports an individualized approach in PHC in which exercise selection is based on functional limitations and patient preferences rather than prescribing a single rigid protocol(13).

### Education and Self-Management

Patient education constitutes another important component of conservative management. Its purpose is not only to provide information about the disease but also to promote an appropriate understanding of pain, encourage self-management behaviors, and facilitate active patient participation in treatment. A systematic review published in 2024 evaluating educational interventions in people with hip and knee osteoarthritis found that education may improve knowledge, beliefs, and certain behaviors related to disease management, although effects vary according to the content and method of delivery of the intervention(14).

In the PHC setting, education and exercise can be integrated into a progressive self-management plan, explaining to patients that physical activity should not be systematically discontinued because of pain and that progression should be adjusted according to individual tolerance. Available evidence particularly supports programs combining education with exercise, although clinical response may vary among patients. Therefore, periodic follow-up allows exercise intensity to be adjusted, adherence to be reinforced, and an insufficient response to conservative treatment to be detected early(15).

### Weight Control and Weight Reduction

Excess weight is a relevant factor in hip osteoarthritis, although the relationship between obesity and hip osteoarthritis is less pronounced than that observed in knee osteoarthritis. A meta-analysis found an association between higher body mass index and increased risk of developing hip osteoarthritis, providing a rationale for incorporating weight control into the comprehensive management of patients. However, specific evidence regarding how much weight should be lost to obtain clinical benefit in hip osteoarthritis has historically been more limited than that available for knee osteoarthritis(16).

More recently, a randomized clinical trial published in 2025 evaluated a weight-loss intervention using a very-low-calorie diet added to exercise in people with hip osteoarthritis and excess weight. The intervention produced a significantly greater reduction in body weight and was associated with an



improvement in hip pain compared with exercise alone. This finding provides direct evidence supporting the management of excess weight in patients with hip osteoarthritis, although the intensity of the dietary intervention used in the study may not necessarily be broadly applicable in PHC(17).

Therefore, in PHC, the objective should not be framed solely as a numerical reduction in body weight, but rather as part of a comprehensive strategy combining healthy eating, physical activity, and therapeutic exercise. Weight loss may be particularly relevant in patients who are overweight or obese, but it should be individualized according to each patient's clinical, functional, and metabolic characteristics.

### Pharmacological Treatment

Pharmacological treatment should be considered a complement to non-pharmacological interventions and used according to symptom severity, comorbidities, and the individual risk of adverse effects. Among the available options, nonsteroidal anti-inflammatory drugs (NSAIDs) have evidence supporting their efficacy in reducing pain and improving function in people with hip and knee osteoarthritis. A network meta-analysis comparing different NSAIDs found that several were superior to placebo for pain control, although selection should consider the patient's gastrointestinal, renal, and cardiovascular risk profile(18).

An NSAID should be selected using the lowest effective dose for the shortest necessary duration, particularly in older patients or those with gastrointestinal, renal, or cardiovascular risk factors. Although NSAIDs may provide important symptomatic relief, they do not modify the structural progression of the disease. Therefore, in PHC they should be used as part of a multimodal management strategy and not as a substitute for exercise, education, and risk-factor modification.

### Intra-Articular Injections

Intra-articular corticosteroid injections may be used as an option for patients with symptomatic hip osteoarthritis when pain persists despite initial conservative measures. A systematic review found that intra-articular corticosteroids can produce a significant reduction in pain, mainly during the first weeks after injection, although the quality of the evidence was limited and the duration of benefit was predominantly short-term. Therefore, their use should be considered a symptomatic and temporary intervention rather than a disease-modifying treatment(19).

More recent evidence maintains this predominantly short-term benefit. A systematic review and meta-analysis published in 2026 found that corticosteroid injections provided substantial improvement in pain and function during the first few months, but effects on pain were not significant between 6 and 12 months. In addition, the authors emphasized the need for careful patient selection because of the possibility of adverse events, including rapidly progressive osteoarthritis(20).

Regarding technique, hip injections generally require image guidance because of the depth of the joint. A recent systematic review and meta-analysis compared ultrasound-guided with fluoroscopy-guided injections and found that both techniques may provide clinical improvement, without establishing clear superiority of one modality across all outcomes. Therefore, in PHC, their use will depend primarily on the availability of trained professionals and access to image-

guided procedures, which represents an important consideration for healthcare organization(21).

### Other Interventions and Multimodal Management

Physical therapy may incorporate manual therapy techniques as a complement to therapeutic exercise in selected patients. A meta-analysis of clinical trials found high-quality evidence supporting exercise for reducing pain and improving function, whereas evidence for manual therapy was of lower quality. Therefore, manual therapy may be considered a complementary intervention, particularly when mobility is restricted, but it should not replace exercise as the principal component of conservative treatment(22).

Combining different interventions may be useful when tailored to the individual patient's needs. A systematic review of non-pharmacological conservative treatments for mild to moderate hip osteoarthritis found favorable evidence for exercise and manual therapy regarding pain, mobility, and function, whereas results from programs combining multiple interventions were more heterogeneous. This suggests that a multimodal approach should not simply consist of accumulating treatments, but rather of selecting complementary interventions targeting specific problems, such as muscle weakness, restricted mobility, excess weight, or difficulties performing daily activities(23).

Consequently, conservative management of hip osteoarthritis in PHC should be understood as a continuous and personalized process rather than an isolated intervention. The initial objective should be to reduce pain and maintain or restore function while encouraging active patient participation and long-term continuation of interventions. Combining education, exercise, physical activity, weight control when appropriate, and pharmacological or interventional treatment according to clinical needs allows treatment to be adapted to symptom severity and individual patient characteristics. Available evidence also indicates that there is no single treatment program that is optimal for all patients(23).

### Summary of Conservative Management

Overall, the evidence supports a care model in which non-pharmacological interventions constitute the foundation of treatment, while medications and procedures are used as complementary measures. Therapeutic exercise has consistent evidence for improving pain and function, whereas education promotes self-management and patient participation. Weight reduction may be particularly relevant in patients who are overweight or obese, although specific evidence for hip osteoarthritis is less extensive than that for knee osteoarthritis. NSAIDs may provide symptomatic relief when there are no contraindications, while intra-articular corticosteroid injections may be considered for short-term relief in selected patients. This approach allows PHC to play an active role in longitudinal treatment while reserving specialist referral for situations in which initial management is insufficient or advanced disease is present(7,11,17,18).

### ROLE OF PRIMARY HEALTH CARE AND CHALLENGES IN CHILE

Primary Health Care constitutes the patient's main point of contact with the healthcare system and plays a central role in



the diagnosis, education, initial treatment, and follow-up of osteoarthritis. PHC-based models of care have evolved toward strategies integrating self-management education, exercise, participation of rehabilitation professionals, and longitudinal follow-up. A review of 63 studies on PHC-based models of osteoarthritis care showed a wide variety of strategies, including self-management programs and models aimed at improving the initial consultation and training of healthcare professionals. These findings support the need to strengthen the capacity of PHC to manage patients before systematically referring them to specialized care(24).

In Chile, one relevant challenge concerns access to rehabilitation services at the primary care level. The country has progressively developed a rehabilitation model integrated into Primary Health Care through community rehabilitation units, comprehensive rehabilitation units linked to CESFAMs, and rural rehabilitation teams. This model seeks to increase access, coverage, and equity in rehabilitation services. However, the growing demand for rehabilitation represents a challenge for existing capacity, particularly in chronic musculoskeletal diseases requiring prolonged interventions and follow-up(25).

Another challenge concerns the continuity and timeliness of specialized care. Although PHC can manage a substantial proportion of patients with osteoarthritis through conservative treatment, some patients require specialist assessment because of diagnostic uncertainty, progression of disability, failure of conservative management, or consideration of surgical treatment. In Chile, waiting lists for specialized care constitute a structural problem within the healthcare system. A study conducted at a public facility in Santiago found that traumatology was among the specialties with the highest demand and documented substantial waiting times for consultations referred from PHC. Although these data correspond to 2011 and should not be interpreted as a current estimate, they historically illustrate the difficulty of ensuring a timely transition between primary and specialized care(26).

The quality of referrals constitutes another important component. An appropriate referral should include the presumptive diagnosis, symptom progression, functional impact, treatments performed, and response obtained, as well as imaging studies when clinically indicated. Stepped-care models for osteoarthritis have shown that the decision to refer depends both on functional severity and on the interventions previously performed in PHC. In particular, implementation of therapeutic exercise and other conservative measures may influence the subsequent trajectory of the patient, reinforcing the importance of referral not constituting the first treatment but rather the next step after an appropriate initial assessment and management process(27).

In the Chilean context, there is also evidence of interventions specifically developed within PHC that may contribute to improving access to conservative treatment. A study conducted among people with knee and/or hip osteoarthritis evaluated a therapeutic physical exercise program based on telehealth using WhatsApp, proposing this modality as an alternative for reducing barriers related to distance, time, and the cost of face-to-face interventions. Although this type of strategy still requires further evidence and should not be considered equivalent to face-to-face rehabilitation for all patients, it represents an interesting possibility for expanding

the coverage of conservative treatment and facilitating follow-up of patients with access difficulties(28).

### **Main Challenges**

In summary, the main challenges for the management of hip osteoarthritis in Chilean PHC are increasing the capacity of primary care to resolve cases, ensuring timely access to rehabilitation, improving continuity between PHC and specialized care, and optimizing referral processes. The existence of a stepped-care system allows specialist assessment to be reserved for patients who truly require it, but its functioning depends on PHC having sufficient human resources, training, and tools to implement conservative interventions. The development of community rehabilitation models and telehealth strategies may contribute to expanding coverage, although their implementation should be accompanied by outcome evaluation and appropriate patient selection(26,27).

### **DISCUSSION**

The available evidence supports a conservative and multimodal approach to hip osteoarthritis, particularly in the early and moderate stages. Therapeutic exercise is one of the most strongly supported components, with benefits for pain and physical function. However, its effects vary among patients, and therefore the program should be adapted to functional capacity, comorbidities, and individual preferences(11).

In this context, patient education, self-management, and control of modifiable factors, such as excess weight, complement exercise. Pharmacological treatment, primarily with nonsteroidal anti-inflammatory drugs when there are no contraindications, may be used to control symptoms and facilitate participation in non-pharmacological interventions, but it does not replace these measures(29).

From a Primary Health Care perspective, the main challenge does not appear to be solely the availability of effective interventions, but rather ensuring that they are accessible and sustainable. Primary care models for osteoarthritis promote education, self-management, exercise, and participation of rehabilitation professionals. In Chile, the incorporation of rehabilitation into PHC through programs linked to CESFAMs constitutes a structure that may facilitate this approach(24,25).

Therefore, in Chile, it is important to strengthen the capacity of PHC to manage these patients, improve timely access to rehabilitation, and establish clear criteria for referral to traumatology. International evidence suggests that a stepped-care approach may reduce unnecessary referrals and concentrate specialized care on patients with greater complexity or those who do not respond adequately to conservative management.

### **CONCLUSIONS**

Hip osteoarthritis represents a common and progressive condition that can cause pain, functional limitation, and deterioration in quality of life. In Primary Health Care, clinical assessment, patient education, therapeutic exercise, and management of modifiable factors constitute the main pillars of conservative management. An individualized and multimodal



approach allows symptoms to be addressed, function to be maintained, and progression of disability to be delayed.

In Chile, the main challenge is ensuring that these strategies can be implemented in an accessible and continuous manner within Primary Health Care. Strengthening rehabilitation, self-management education, and appropriate coordination between Primary Health Care and specialized care may contribute to improving the quality and timeliness of management for patients with hip osteoarthritis.

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## CONFLICT OF INTEREST

The authors report no conflicts of interest.

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