An overview of conservative treatment for lower back pain

This article summarizes the available evidence on the management of patients with subacute or chronic low back pain. The largest part is devoted to nonspecific low back pain but the models of spinal stenosis and disk herniation/sciatica are also specifically addressed. The authors point out the limited evidence available and the importance of a tailored approach for the individual patient. As the effect sizes of most therapies are rather small (close to that of a placebo), patients' preferences and other variables important for individualized management are highlighted. The task for the practitioner is difficult and awareness of this is important. Some speculation regarding potential future ways of improving patient care are presented.

KEYWORDS: disk herniation with sciatica ■ future developments ■ guidelines ■ injections ■ medication ■ self-management ■ spinal stenosis ■ strategies ■ subacute/chronic low back pain

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Low back pain (LBP) remains the most frequent musculoskeletal complaint worldwide and all age groups are affected by these symptoms. They are classically stratified into acute, subacute and chronic, with respective cut-offs of <6 weeks, 6–12 weeks and >12 weeks [1].

By itself, it produces direct and indirect costs of hundreds of billions of dollars for the US alone. Recent studies in adults and elderly populations have shown a significant increase in LBP, both in numbers and costs, in terms of investigations, treatments and disability, an observation at least partially explained by a raise in prevalence [2,101]. However, the large differences in the rate of spinal surgical procedures observed between states within the US [3], as well as between countries worldwide, suggest that decision-making is certainly influenced by regulations and other sociopolitical factors.

As LBP is extremely prevalent, the main problem remains the chronic cases, in particular in term of investigations and costs. Acute episodes of LBP statistically have quite a good prognosis more or less independently of the chosen treatment. A recent review confirms that a variety of treatments of acute LBP are effective and supported by the literature [4]. Moreover, there are excellent updated reviews on the management of acute pain not limited to but including LBP [5]. The interested reader can download this electronically [102].

If until recently a figure of 8–10% was usually accepted as the number of acute LBP episodes evolving into chronic cases, recent studies have show much more ominous figures with frequent relapses and persistence of symptoms at 1 year in up to 10–30% of cases according to definitions used. On the other hand, more than a third of the patients with LBP for more than 3 months do recover within 12 months [6–9].

Defining if a patient is going to become chronic or establishing an individual prognosis based on epidemiological studies is a very difficult task. Certainly, a precise diagnosis would help. However, it is commonly accepted that a specific identifiable etiology is only found in around 15% of cases, including disk herniations, spinal stenosis, osteoporotic fractures, inflammatory diseases and the infrequent (approximately 1%) specific neoplastic or infectious destructive lesions [10]. The largest part of this manuscript is devoted to the 85% of patients asking for medical attention and suffering from chronic LBP without any of those specific identifiable etiologies, the so-called nonspecific (NS) LBP. Furthermore, we included spinal stenosis and lumbar disc herniation in the discussion in regard to their frequency in daily practice.

It has been shown already in adolescent populations that psychosocial factors are stronger predictors of incident LBP than mechanical factors [11]. In adult populations, psychosocial factors are risk factors for chronicity much more strongly related to outcome than any clinical or mechanical variables [12,13], while previous episodes of pain are strong predictors of future ones. Twin's cohort studies have shown that NS-LBP

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is >40% genetically determined, whilst work, leisure time and physical activities play a minor role [14,15].

If the natural history of acute episodes of LBP is favorable independently of the chosen treatment, our daily concern remains chronic LBP and we have focused this review on the management of chronic and subacute LBP cases.

Finally, there is an overwhelming amount of literature on the subject, as well as numerous guidelines and recommendations. This short overview is based, for practical reasons, on the latest guideline we were aware of [103], an English study with several major strengths, such as including among their criteria for implementation the likelihood of impact on patients' outcome and efficient use of NHS resources, completed with relevant randomized controlled trials (RCT) or meta-analysis published more recently.

Management of LBP

All of us, including patients, would prefer to prevent rather than to treat. Primary prevention would ideally prevent the occurrence of LBP, while secondary preventive measures are aimed at preventing the recurrence of acute LBP episodes with their risk of chronification, which is the most relevant problem.

Primary prevention

During the last few decades it has been shown that adolescents report NS spine pains with a frequency close to that of their adult counterparts. These figures indirectly preclude any major efficacy of primary prevention techniques and suggest that any preventive measures should be implemented very early in an individual's life to have any chance to prevent the occurrence of LBP.

Nevertheless, numerous interventions have been tested over the years, and the evidence available for primary prevention of back problems have been recently reviewed [16]. Only exercise interventions, without any specificity of type, have shown effectiveness using the highest quality criteria, with an effect size (ES) ranging from 0.39 to >0.69 (ES computation: ES = [mean1 - mean2]/[pooled SD]; with ES interpretation: <0.15 = negligible effect; >0.15 and <0.40 = small effect; >0.40 and <0.75 = medium effect; and >0.75 = large effect). Other techniques such as stress management, shoe inserts, back supports, ergonomic/back education and reduced lifting programs have not been found to be effective [16].

Secondary prevention

As stated before, an acute episode of LBP has an intrinsically good prognosis more or less independent of the chosen treatment. A variety of treatments are efficient for the acute episode [4], but the question is if any early intervention in this setting could or would prevent the ominous chronification and persistence of the problem in a significant percentage of patients. Up to 30% of cases will evolve badly, but there is no specific validated therapy of an isolated acute phase that would prevent this evolution and work in secondary prevention of chronic NS-LBP, except the physical exercises previously recommended as primary prevention.

Conservative treatment of chronic NS-LBP

As no preventive measure has sufficient power to prevent chronic NS-LBP, we are left with managing the problem when it arises, which can be done with an array of approaches, from conservative therapy to surgical intervention. In 2009, Rainville *et al.* reported on the evidence on conservative treatments for chronic LBP looking at the nonsurgical arm of several RCTs comparing surgical and conservative management [17]. Clearly, surgery primarily focused on the alteration of structures perceived to be the sources of pain whilst conservative management aims to improve patients' function, with or without simultaneous improvement of pain [17].

The poor results obtained in terms of public health are not due to a lack of therapeutic possibilities. In an amazing paper, Haldemann reported that nonexhaustive research identified more than 200 treatments for LBP [18]. In fact, while lack of treatments is not a problem, overtreatment could be a more worrisome problem, and opinion leaders have even suggested that clinicians back off [19].

Finally, lack of a really efficient and universal therapy remains a problem. A review of the magnitude of the effect of different treatments in acute and chronic LBP shows that the average effects of treatments for NS-LBP are not much greater than those of placebos [20]. For example, NSAIDs and muscle relaxants reduce the intensity of pain by less than 20 points on a 100-point scale both for acute and chronic LBP patients. The very few therapies that have demonstrated larger effect sizes (>30 on a 0–100 pain scale) have only been evaluated in single small studies, and not been reproduced in any larger cohort [20].

The overwhelming number of available guidelines and recommendations reflects the difficulty of managing a common problem in the absence of any universal efficient treatment. We chose to highlight and comment on the latest UK guidelines for NS-LBP between 6 weeks and 12 months duration [103], which have the advantage of not only summarizing the main recommendations for patients in seven headings (reused as subheadings below), but also to clearly define therapeutic modalities that should not be prescribed despite the urge to be proactive in front of a suffering patient.

Information, education & patient preferences

Promoting self-management and encouraging physically activity certainly make sense and should be reasonably cheap. The question is how much resource should be invested in this direction. The limits of education and self-management have recently been highlighted for osteoarthritis [21], and the same caveat certainly applies for LBP.

Along the same lines, offering booklets and stand-alone formal education programs could appear appealing, as they are widely available. However, there is no scientific evidence, and it seems essential to take into account the person's expectations and preferences before using such programs.

Physical activity & exercise

Again, advising people with LBP to stay physically active is likely to be beneficial, and advising to exercise is adequate. Nevertheless, advising is only part of the problem. There are often a lot of concerns from practitioners to know which type of exercise program should be ideally prescribed, but most types of exercise will be appropriate, including aerobic activity, movement instruction, muscle strengthening, postural control or stretching. The real trick is actually to motivate the patient to exercise, and a structured group exercise program is the recommended first step. A one-to-one supervised exercise program may be offered if a group program appears unsuitable for a particular person, and is certainly more adequate than leaving the patient to exercise on their own, regardless of their good resolutions.

Van Midelkoop *et al.* have recently summarized the evidence for exercises. "Exercise therapy seems to be effective for the prevention of LBP, but only a few recent trials have been conducted. This therapy is not effective for acute LBP, whereas it is effective for chronic LBP; however, there is no evidence that any type of exercise is clearly more effective than others. Subgroups of patients with LBP might respond differently to various types of exercise therapy, but it is still unclear which patients benefit most from what type of exercise. Adherence to exercise prescription is usually poor, so supervision by a therapist is recommended. If home exercises are prescribed, strategies to improve adherence should be used. Patient's preferences and expectations should be considered when deciding which type of exercise to choose" [22]. In other words, one can prescribe exercise therapy without the fear of not being a specialist as there is no clear cut benefits for one type to the other, or rather we are still unable to precise who is going to benefit from exercises. Again, the most important and hardest part is getting the patients' adherence to the program; matching the patients' expectations and preferences should help.

Manual therapy

The UK guideline proposes to consider offering a course of manual therapy, including spinal manipulation. However, not all patients feel comfortable with this type of approach, and, again, patient's expectation and preferences clearly dictate the use of such therapy.

Other nonpharmacological therapies

We can only agree with the guideline's authors in their strong recommendation not to offer any of the multiple therapies with no scientific support, including laser therapy, interferential therapy, therapeutic ultrasound, transcutaneous electrical nerve stimulation (TENS), traction or lumbar supports.

Invasive procedures

Injections and denervations are other fashionable procedures that have gained large acceptance in some countries. However, a systematic review on injection therapy and denervation procedures for chronic LBP has recently concluded that the evidence supporting these two categories of therapies over placebo is "low to very low quality". The authors highlight that it cannot be ruled out that in carefully selected patients some injection therapy or denervation procedures may be of some benefit [23]; however, it remains equally false to push those procedures for the majority of patients and the British guidelines recommend not to offer injections of therapeutic substances into the back for NS-LBP.

Acupuncture is a special case that could be considered for a limited number of sessions, and is probably more beneficial if it matches the patient preferences.

Combined physical & psychological treatment program

Combined physical and psychological treatments (including cognitive behavioral approach and exercise) have been shown to be efficient. However, to demonstrate benefits they must be quite substantial, comprising around 100 h over a maximum of 8 weeks. Availability of such programs and of the patient are limiting factors, but cost issues remain the main limitation and such programs should be reserved for patients with high disability and/or significant psychological distress and who have failed at least one less intensive treatment program.

Group cognitive behavioral treatment has been shown to have a statistically significant effect (over 1 year) at much lower cost on troublesome subacute and chronic LBP in primary care [24], with effect sizes ranging from 0.1 for SF-12 mental to 0.5 for SF-12 physical and fear-avoidance beliefs. However, the benefits appear limited and are also clearly dependent on local availability of such programs.

Pharmacological therapies

As in all pain-related guidelines, regular paracetamol is the first recommended medication option. However, paracetamol is not free of side effects when taken regularly at a recommended dose. NSAIDs and/or weak opioids are the next step, again despite the fact that their benefits are far from being established.

NSAIDs are also far from being side effect free, particularly in the elderly. It is important to take into account the individual risk, and in particular the gastrointestinal risk, and either a standard NSAID coprescribed with a proton pump inhibitor (PPI) or a COX-2 inhibitor is recommended. Again, the patient's profile, preferences and expectations should not be forgotten. Aspirin cancels the benefits of COX-2 inhibitors, while more than 25% of the patients never start their PPI cotherapy [25]. In other words, we often take considerable risk for a therapy with limited evidence for efficacy.

If ineffective, recommendations consider offering tricyclic antidepressants for pain relief. However, these are not more efficient than the other analgesics discussed above. Selective serotonin reuptake inhibitors (SSRIs) are usually not proposed for treating pain [103], but a recent RCT on the efficacy of duloxetine in patients with non-neuropathic chronic LBP has shown a significant reduction in pain and improved function compared with placebo [26].

Finally, one can consider offering strong opioids for short-term use to people in severe pain. Referral for specialist assessment may be required for prolonged use of strong opioids given the risk of opioid dependency and side effects. There is also increasing concern about the utilization of opioids for chronic noncancer pain management [27]. The adverse effects [28] and the utilization of these drugs in rheumatology [29] have recently been reviewed. A recent Cochrane review, including, among others, seven studies on LBP patients, highlights the limits of the tolerance and efficacy of these drugs [30]. While opioids are an alternative, they are not magical pills that will solve the problem of pain management in LBP.

If no treatment is universally and totally efficient, it certainly appears rational to combine different interventions, a commonly used practice for some LBP healthcare providers. A recent Cochrane review on combined chiropractic interventions reported that combined interventions slightly improved pain and disability in the short term and pain in the medium term, but only for acute and subacute LBP. No difference was demonstrated for chronic LBP and for studies including a mixed population of LBP [31]. Even if combining several treatments improves the results, that approach is not always cost effective, as recently shown by Smeets *et al.* [32].

There is an urge to be proactive and we often use and abuse unproven therapeutics. However, we should at least base our decisions to continue such treatments on the individual response.

Some specific models

Lumbar spinal stenosis

Lumbar spinal stenosis (LSS) with claudication is one of the rare causes of chronic LBP with an identifiable specific etiology, and thus should ideally benefit from much more efficient therapies. Tran *et al.* have just reviewed the literature on the nonsurgical management of LSS [33]. The main messages of this paper remain grim. Passive physical therapy seems to provide minimal benefits, while the optimal regimen for active physiotherapy remains unknown. Parenteral but not intranasal calcitonin, can only transiently decrease pain, as epidural blocks with local anesthetics which can improve pain and function, but with short-lived benefits. Importantly, the evidence does not support the

addition of steroids to local anesthetics in epidural blocks [34]. Again, benefits have been reported with several other therapies, such as gabapentin, limaprost, methylcobalamin and epidural adhesiolysis, but in single studies that still await the validation and confirmation of further trials. A recent small retrospective study suggests that low-dose tricyclic antidepressants (approximately 10 mg of amitryptilne or nortriptyline) may be effective, particularly in patients reporting both back and leg pain [34], another study awaiting validation and confirmation.

Another recent review of the topic confirms the previous findings, highlighting, however, the poor quality of the evidence. At best, fair evidence supports the lack of effect of intranasal calcitonin and postoperative rehabilitation programs [35]. Concerning injections, there is good evidence for the absence of effect of interlaminar epidural corticosteroids injections without fluoroscopic guidance, while the evidence is fair for the short-term effects on pain and function of interlaminar injections under fluoroscopic guidance, and for the short- and long-term effect on pain of caudal epidural injections [35]. Again, injecting steroids plus bupivacaine is not more effective than injecting bupivacaine alone in this setting [35], and can even add specific complications such as epidural lipomatosis to the numerous possible complications of epidural injections [36].

Despite the hope that a specific etiologic diagnosis would favor better treatments, as well as higher quality evidence, Siebert *et al.* stated in their recent review article [37] that "Class I evidence-based recommendations cannot be made for any conservative or surgical therapy in relation to mid-term and long-term patient outcomes". In summary, we are still prescribing patients with mild-to-moderate symptoms of spinal stenosis conservative therapies, including delordosing measures, epidural injections and other pharmacological measures, regardless of the absence of strong evidence of efficacy. A specific etiologic diagnosis has not allowed us to define a better management strategy at this stage [37]. We are left with conservative therapy with a "wait and see" attitude, proposing what appear reasonable measures, but with no clear evidence-based strategy, switching to surgery if conservative therapy proves ineffective after 3–6 months in cases of severe symptomatic spinal stenosis. However, we should be aware that there is a worrisome trend toward more complex spinal surgery, as highlighted in a recent study by Deyo *et al.* [38] with an accompanying editorial [39]. The last few years in the USA have shown a substantial increase in the number of those more expensive and dangerous procedures, with lumbar surgery being the most overused test or treatment.

In spite of this remark, it also remains important not to delay too much the referral to a spinal surgeon, and in particular not to rely solely on the calculated surface of the dural sac but perhaps more on the residual amount of cerebrospinal fluid [40].

Disc herniation & sciatica

Lumbar disc herniation with associated radiculopathy (LDHR) is another quite common etiology of LBP, at the boundaries from NS-LBP, where the expectation that a specific etiologic diagnosis would favor better treatments has been rebutted. The results of a recent systematic review on this topic are almost depressing for clinicians, but certainly enlightening and deserve to be read as Hahne *et al.* concluded: "This systematic review of RCTs involving people with clinical and radiologic evidence of LDHR provides strong evidence that advice is less effective than microdiscectomy at short-term follow-up, but equally effective at long-term follow-up, for people with subacute LDHR. There is moderate evidence that stabilization exercises are better than no treatment at short-term follow-up, that manipulation is better than sham manipulation at short- and intermediate-term follow-ups for people with acute LDHR and an intact annulus, and that no difference exists between traction, laser, and ultrasound at short and intermediate-term follow-ups. Moderate evidence was found that the addition of mechanical traction to medication and electrotherapy methods reduces the risk of sciatica being present at short-term follow-up, but not the risk of back pain being present or mean pain intensity. There was either limited or no evidence to support the efficacy of manipulation compared with other treatments, traction compared with other treatments, physical therapy compared with neuroplasty, or for herbal medication, magnetic corsets or NSAIDS. Two trials reported adverse events associated with traction (pain, anxiety, lower limb weakness and fainting), whereas one trial reported gastrointestinal events associated with ibuprofen. Additional high-quality trials are required to determine which conservative treatments are the safest and most effective for people with LDHR" [41]. In other words, despite being extremely common, with an annual prevalence of more than 2% [42], and the overwhelming amount of

literature on the subject, we are still unable to propose an evidence-based efficient treatment, a sad truth recently underlined in various publications. The recent review of the topic from Valat *et al.* highlights the lack of information and low level of evidence available on the conservative treatment of sciatica [43], while van Tulder *et al.* were also very restrictive with regard to the support the evidence provides for any form of treatment in their very recent practical paper. They wrote: "Conservative treatment is generally the first-line option in patients with sciatica; however, the currently available evidence does not show any intervention – including a broad range of conservative and surgical approaches – to have clearly superior outcomes. Thus, patient preference seems to be an important factor in the clinical management of sciatica" [44]. We regularly prescribe analgesics, NSAIDS, muscle relaxants or even opioids despite the fact that there is no evidence they are any more efficient than a placebo to diminish symptoms [45]. Similarly, there is no evidence to favor bed rest, active physical therapy or other conservative treatments (tractions, manipulations, hot packs or braces) over no treatment at all [45]. Not stopped by this absence of favorable evidence, we not only regularly prescribe those procedures, but we use plenty of other treatment with either no available evidence for efficiency or even evidence of their potential harm, such as for corticosteroids [46,47], opioids [48,49] or benzodiazepines [50]. Brötz *et al.* have evaluated the impact of benzodiazepines in patients with acute lumbar disc prolapse and sciatica in a RCT versus placebo and concluded that benzodiazepines should not be used routinely in patients treated with mechanical physiotherapy for lumbar disc prolapse [50], but they remain nevertheless largely prescribed.

Research is ongoing, with more or less rationale. A recent RCT including two small groups of patients (36 vs 24) with acute back pain with lumbar disc herniation reports some statistically significant positive effects of intramuscular injections of an oxygen–ozone mixture on the paraspinal muscles [51], but again, we should always remember that there are plenty of treatments that have shown beneficial effects in small trials where the results have never been replicated.

Conclusion

The societal burden of LBP keeps increasing despite, or perhaps because of, the ever increasing number of diagnostic and therapeutic procedures performed for this very common ailment. Happily, the natural history of acute episodes of LBP remains favorable in most cases, independently of the chosen treatment. Subacute and chronic cases represent the real challenge and our daily concern. We are still unable to adequately identify the patients at high risk of becoming chronic, nor has any universal measure been demonstrated useful for primary or secondary prevention. Furthermore, overtreating patients with NS-LBP is probably more deleterious than beneficial and we should probably restrain from being overenthusiastic at using one of the hundreds of treatments described for the management of NS-LBP at the first sign of LBP. Finally, the risk of potential side effects should also be weighted in the balance, as well as the individual patient's preferences taken into account, before starting any therapy. We should ensure that we have identified the reasons why the patient is sitting in front of us, bearing in mind that among individuals reporting LBP, "consulters" and "nonconsulters" cannot be distinguished in terms of pain intensity [52]. We still misunderstand too often the motivation and/or expectations of the individual patient, a problem coupled with the limited knowledge of the psychological profile, patient preferences, CNS participation, and so on, based on the meager time available for a clinical appointment [53].

There is limited evidence for a majority of treatments in chronic LBP, and effect sizes are usually moderate for the few statistically significantly effective forms of treatment. We are also faced with difficulties in interpreting the evidence, as review articles may end up with significantly different conclusions based on the same literature [54], and the difficulties in using evidence in clinical practice have been recently highlighted [55]. However, the individual response cannot always be inferred from the limited evidence available, and patients should still be managed despite the absence of universally efficient treatment. We apply the same treatments with their limited evidence and small effect sizes to all chronic LBP patients. More precise diagnosis and subgrouping of NS-LBP for the purposes of treatment might improve the efficacy of therapies [56]; however, a recent review of the topic has concluded: "At this point, the bulk of research evidence in defining subgroups of patients with LBP is in the hypothesis generation stage; no classification system is supported by sufficient evidence to recommend implementation into clinical practice" [57]. Spinal stenosis and disk herniation with sciatica are good examples that our subgrouping is still too vague to be really useful.

We should promote exercise and self-management programs for osteoarthritis and back pain [58]. Despite weak evidence for chronic back pain, exercise programs appear to represent the best way forward [58], and there is also moderate-quality evidence that post-treatment exercise programs can prevent recurrences of back pain [59].

While patients' self-management and the promotion and encouragement of the maintenance of daily physical activities can, and certainly should, be encouraged in all patients at no risk and no cost, there are a multiplicity of treatments where the risk/cost– benefit ratio is not so clear. Even simple measures such as the prescription of analgesics or NSAIDS should be monitored by means of validated tools in order to evaluate the outcome. In the absence of clear and established benefits for any therapy, it is essential that any prescribed treatment is evaluated and monitored at the individual level. More difficult with the urge to be proactive in front of a suffering patient, it is mandatory, particularly in a time of limited healthcare resources, to refrain from using all those therapies and procedures where clear lack of benefits has been demonstrated.

It is possible that some of those therapies remain valid for some individual patients or well-defined subgroups of LBP. However, so far we have been unable to identify and characterize such subgroup well enough to be applicable at the individual level. The concept of personalized and individualized healthcare should not be used to promote the use of inadequate therapies, whose evaluation in such settings should be clearly limited to well-designed trials.

More than anything, we should try to demedicalize LBP and promote self-management as much as possible. Promoting exercises with methods that do not require any contacts with healthcare providers, like walking, may be effective for the treatment of LBP (low-to-moderate evidence in a recent review) [60], and as recently writen by Weiner and Nordin, "a large proportion of patients seeking care can manage their short term and even longer term incapacity" [61]. It has been shown that acceptance of pain is significantly associated with quality of life [62]. We still do not know to what extend this variable can be influenced by the healthcare providers, but it is all too easy to lure patients into hopes that specific diagnosis and miracle treatments are available.

Future perspective

Is there any hope for the near future? Genotyping for risk factors might be a pathway worth exploring, as it has recently been demonstrated that there is a link between musculoskeletal pain and genetic variations in the primary stress response system [63–65]. However, the reported associations are modest and partially explained by psychological comorbidity [64]. Perhaps the solution will be brought by the regenerative medicine specialists, who are actively searching for solutions to promote disc regeneration [66–68]. However, by analogy to the problem of relevance of chondroprotective drugs in osteoarthritis underlined by Brandt *et al.* in their recent review [69], the relevance of simple disc regeneration once patients are symptomatic is far from being demonstrated.

Finally, with more than 200 treatments available for LBP [18], it remains hard to believe that the solution will come from a totally new treatment with some unthought-of rationale. Some of the available treatments should be effective in a defined group of patients. However, we have been unable to define such relevant subgroups until now [70], using mainly a mechanistic point of view, and the solution will hopefully come with new approaches for subgrouping our patients, such as genotyping.

Executive summary

- Low back pain (LBP) is the most frequent musculoskeletal complaint worldwide, but chronic LBP remains the main problem in terms of investigations and costs.
- Only exercise interventions have shown effectiveness as a preventive measure for LBP.
- Multiple guidelines are available to help us manage LBP, underlining not only recommended but also not recommended procedures.
- Overtreating patients with nonspecific LBP is probably more deleterious than beneficial.
- Defining specific etiologic diagnosis such as spinal stenosis or disk herniation with sciatica has not allowed us to define better management strategies to date.
- We must demedicalize LBP and promote autotreatment as much as possible, since pain acceptance is significantly associated with quality of life.
- The poor results obtained in terms of public health are not due to a lack of therapeutic possibilities, but the average magnitude of the effect of the different treatments that are not much greater than those of placebos.
- Hopefully, new approaches at subgrouping our patients, genotyping for risk actors or promoting disc regeneration will allow us to tackle chronic LBP in the near future.

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