

WORKING AROUND A CLIENT'S LOW BACK PAIN—STRATEGIES AND EXERCISE PROGRESSIONS

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Research has supported that the long-standing belief of resting during an acute bout of lower back pain (LBP) may worsen chances of recovery and increase the likelihood of chronicity (2,22,23,27). Given that LBP is one of the most common causes of disability worldwide, with around 75 – 80% of all individuals experiencing LBP at some point in their life, the likelihood is that most personal trainers will work with clients who have current or past histories of LBP (24). Awareness of the current published guidelines and beliefs surrounding LBP and exercise can assist the personal trainer in the decision-making process regarding exercise selection.

The focus of this article is to provide personal trainers with an evidence- and practice-based approach to exercise selection and implementation in those with LBP and to shed light on signs and symptoms that may warrant immediate referral to a medical provider. It is important for the personal trainer to be able to recognize signs and symptoms of potential pathology because personal trainers are considered one of the key professionals promoting physical activity to the public (30). Yet, only 20% of physicians report referral to a personal trainer due to fears of being poorly trained (30). The intent of this article is to help personal trainers become better educated on ways to work with clients with LBP and further, to understand when exercise is not appropriate. It is assumed that if a client is presenting with LBP that he or she has been seen by a medical provider and cleared for exercise. If a client presents with new onset of LBP, the personal trainer should use discretion to determine whether exercise without clearance from a medical provider is safe and within scope of practice.

LOW BACK PAIN LOCATION AND ITS ASSOCIATED PRESENTATIONS

LBP is defined by its location, typically between the lower rib margins and the buttock creases and is commonly accompanied by pain in one or both legs (24). In addition, some people with LBP have associated neurological symptoms in the lower limbs and posterior thighs, commonly known as sciatica (24). Sciatica is named for the sciatic nerve, which is the nerve that originates in the lower part of the low back and carries sensory and motor innervation to the posterior thigh and lower leg. When the sciatic nerve is impacted, neurological symptoms can range from numbness and pain down the back of the thigh and into the foot to potentially muscle weakness that impacts function (33). Research has shown that sciatica frequently presents with LBP up to 43% of the time with 50% recovering in 10 days and 75% improving in four weeks in one study, suggesting that sciatica itself is not a cause for stopping exercise (20,38). In fact, those with sciatica are recommended exercise and mobility training, necessitating the continued role of the personal trainer in the management of LBP (1).

RED FLAGS THAT WARRANT A REFERRAL TO A MEDICAL PROVIDER

Before proceeding further, the personal trainer should be aware of the signs and symptoms that accompany LBP that may suggest pathology. While the occurrence of pathology accompanying LBP is low, estimated around 1 – 4%, recognition of these symptoms may play an important role in early medical intervention (15,39). For brevity's sake, Table 1 covers major red flags and associated pathologies that may be underlying an individual's symptoms. The personal trainer is not trained to diagnose medical conditions, but this should not exclude understanding when to refer out. However, it must be said that despite the presence of these signs and symptoms, it does not guarantee pathology, only increases its likelihood and necessitates further medical examination to determine (10). It is important to recommend exercise clearance from a medical provider if a previously pain-free client presents with a new onset of LBP with any of these potential red flags or if these red flags present themselves in a client with current LBP.

DEFINING IRRITABILITY—A CRUCIAL CONCEPT IN EXERCISE PRESCRIPTION FOR LBP

“Irritability” is a term used to describe musculoskeletal disorders that focuses on the ability to negatively affect symptoms with an intervention (“movement” in the context of personal trainers) (31). It is a largely subjective measurement that considers the client's willingness to move, pain levels, and tolerance to exercise. It most often refers to the acuteness of the disorder, but all conditions (e.g., not just LBP) have the capacity to be irritable. The symptoms most relevant to personal trainers is pain but can also include numbness and tingling.

It is the job of the personal trainer to follow exercise recommendations from the medical provider. However, as LBP may present with varying levels of pain and functional impairments, personal trainers should make an honest attempt at assessing irritability before beginning an exercise program. As an unfavorable response may reduce exercise tolerance and lead to session cessation or even induce excessive pain or discomfort leading to an aversion to exercise, personal trainers should be aware of strategies that may increase adherence in clients with LBP.

Irritable conditions require some considerations given that there are emotional relationships to pain following the performance of aggravating movements that may be disproportionate relative to what would be typically expected (31). For example, in those with LBP, a 45-lb barbell deadlift exercise regimen may induce significant pain and movement loss despite the relatively low loads used, whereas in the same person who is now pain-free, they may be able to lift greater than 315 lb. In addition, the symptoms induced by the exercise may persist for 48 – 72 hr before returning back to a

baseline measure. Therefore, when working with those with LBP, it is advised to perform diligent tracking of exercise type and exercise volume as unaccustomed increases in either may predispose the irritable condition to temporarily (and unnecessarily) worsen.

The authors recommend attempting to classify irritability of LBP with a combined approach of subjective as well as objective measures. If there is any question regarding stratification of

irritability in a client with LBP, reaching out to the client's medical provider is recommended before proceeding with exercise. Table 2 describes some common ways that irritability can be quickly assessed by the personal trainer. If the irritability is too severe, the client is having exaggerated responses to movement, or the client is physically or mentally unable to exercise secondary to fear of exacerbating existing symptoms, referral to a medical provider is warranted.

TABLE 1. SOME MAJOR RED FLAGS FOR LOWER BACK PAIN

POTENTIAL RED FLAGS	ASSOCIATED CONDITION
Age < 18 years old	Congenital abnormality
Age > 50 years old	
Long-term corticosteroid use	Fracture
Trauma (e.g., fall from over 3 ft)	
1. Genitourinary issues such as urinary retention or sexual dysfunction	
2. Lower extremity muscle weakness	Cauda equina syndrome
3. Saddle anesthesia (numbness or tingling around the genitals or anal region)	
Fever	Infection, malignancy
1. Unexplained weight loss	
2. Progressive worsening of lower back pain without relief	Cancer
3. Consistent night pain	

Information adapted from (9)

TABLE 2. CLASSIFYING IRRITABILITY IN A FITNESS CLIENT

LEVEL OF IRRITABILITY	POTENTIAL SYMPTOMS/RESPONSES TO MOVEMENT
Low	<ul style="list-style-type: none"> • Pain levels 0 – 3/10 • Able to tolerate moderate to heavy loading • Symptoms remain the same or slightly worsen during and/or following exercise but return to baseline within an hour • Client is minimally apprehensive to perform exercise
Moderate	<ul style="list-style-type: none"> • Pain levels 4 – 6/10 • Able to tolerate light to moderate loading • Symptoms increase during and/or following exercise but return to baseline within 24 hr • Client is moderately apprehensive to exercise due to fears of exacerbating symptoms
High	<ul style="list-style-type: none"> • Pain levels 7 – 10/10 • Able to tolerate very light loading/isometrics • Symptoms significantly worsen with any form of exercise and remain worse for more than 24 hr • Client is extremely apprehensive to exercise due to fears of exacerbating symptoms

If present for more than one session, referral back to a medical provider is warranted

Adapted from multiple sources in conjunction with practice-based recommendations from the authors (14,19,34,36).

WORKING AROUND A CLIENT'S LOW BACK PAIN— STRATEGIES AND EXERCISE PROGRESSIONS

GENERALIZED FRAMEWORK TO PRESCRIBE EXERCISES BASED ON IRRITABILITY

When programming exercises for clients with LBP, a generalized framework can help with reducing the potential for adverse responses. As mentioned in Table 2, the highly irritable LBP client may benefit from a referral to a medical provider when it continues to present beyond one session. Otherwise, the moderate and low irritability LBP client has plenty of options that can be used to facilitate an active approach during a time when symptoms are present. In this section, the authors propose some evidence-based guidance for personal trainers working with clients with LBP.

Figure 1 depicts the many general modifications that personal trainers can use after classifying their client's stage of irritability. Note that there may be other strategies to assist in the different stages, including aerobic exercise and other forms of movement such as Pilates or yoga that may be beneficial for clients with LBP (7,25,40). The authors propose a traffic light system for resistance exercise inspired by peer-reviewed articles as well as the vast practical experience of the authors exercising with clients presenting with LBP (12,13,17,18,19).

The authors also propose that within these stages there are multiple exercises and movements that can be used to continue to safely work with clients. As personal training encompasses numerous potential avenues for resistance exercise, the authors decided to focus on the six most common patterns of movements that make up many resistance training programs (Table 3) (12,13,17,18,19,37). These normally include a horizontal row and press, vertical pull and press, squat, and hip hinge pattern (3,8,11). Along with providing the personal trainer with a rudimentary way to classify movement, these patterns also recruit most of the major muscle groups of the body.

Multi-joint exercises would target almost all muscle groups. Modifications can also be made to address isolated muscles depending on the stage of irritability. According to dynamic systems theory, if a client has a more difficult time with multi-joint movements, reducing the degrees of freedom by constraining the movement either by reducing total musculature (e.g., reducing it to a single-joint movement) or enhancing stability (e.g., moving to machine-based exercise) may allow for improved exercise performance within the movement pattern (5). Conversely, increasing the stabilization requirements and muscles involved in a movement pattern increases difficulty. Within our framework,

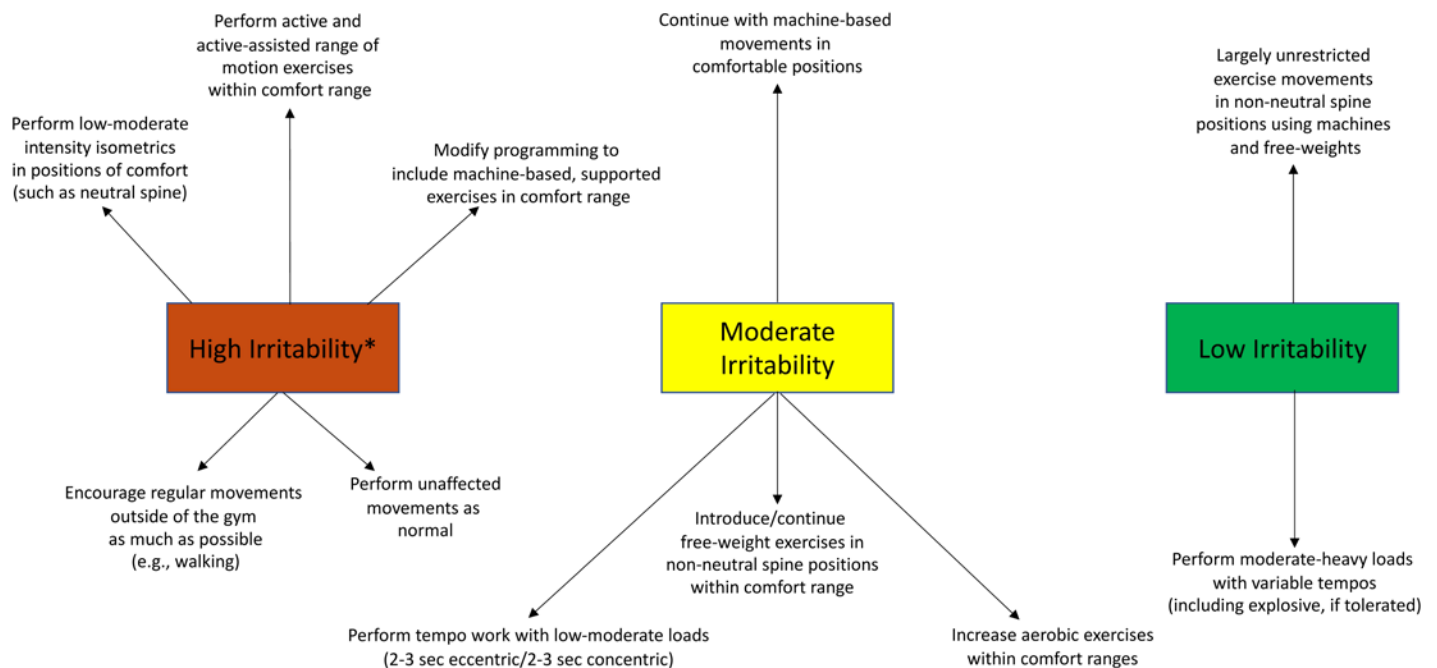


FIGURE 1. SUGGESTIONS FOR EXERCISE MODIFICATIONS THROUGHOUT EACH STAGE OF IRRITABILITY IN THOSE WITH LOWER BACK PAIN

enhancing stability or reducing the recruited muscle mass would be considered a regression and should be characterized accordingly compared to the pattern's more difficult movements with greater muscle mass or stabilization requirements. Based on the above rationale, the authors outline exercises from easiest to hardest.

For example, the bench press is considered a horizontal press movement pattern and recruits many muscles in addition to the pectoralis major, including the deltoids, triceps, and the forearms (28). In this framework, the barbell or dumbbell bench press is the hardest variation of this pattern due to the multiple muscles recruited and the stabilization required by the upper extremities to perform the movement. However, an easier variation would simply be recruitment of the pectoralis major (often considered the prime mover for the bench press) during a single-joint exercise, such as the machine chest fly. This regression reduces total muscle recruitment, increases stabilization because of the addition of the machine, and is in one movement plane. According to dynamic systems theory, this would be more accessible for the client than the bench press. In addition, the client with LBP can remain in a supported, seated position which may be more tolerable than getting into the supine position. The same rationale can be applied across the framework the authors present regarding difficulty levels across the various movement patterns.

While this is not a one-size-fits-all approach and does not include all the movements and exercises potentially available within a particular pattern, this can be a good starting point and template with most clients with LBP. This is particularly true since no form of resistance exercise has been shown to be largely superior to

another in LBP (35). However, it appears posterior trunk and leg strengthening outperforms general exercise and walking programs in reductions in pain, disability, and improvements in strength (6). The authors chose this framework because it encompasses movement patterns that recruit the entire body in a categorical fashion, including the posterior trunk and thigh musculature (e.g., hinge) and can also be used in pain-free clients. This framework also allows the personal trainer to introduce harder and harder exercise variations with more freedom of movement (e.g., more stabilization requirements, force, or range of motion) as determined by the client's stage of irritability.

It is important to assess irritability prior to, during, immediately after, and 24 hr following the introduction of newer exercises, particularly when symptoms are present for two or more sessions within the same stage. The personal trainer may also consider reductions in training volume to more minimal levels then increasing intensity via manipulations of repetitions, sets, or load over sessions moving forward if the symptoms are manageable and excessive negative responses are not produced (26).

When new, more challenging exercises are introduced, (i.e., progressing from moderately difficult to hardest difficulty) it may also be wise to reduce training volume to further develop positive momentum back towards more "normal" training and to improve client confidence and comfort with movement. These recommendations align with the progressive overload principle and are in accordance with the National Strength and Conditioning Association (NSCA) recommendations for exercise prescription and progression as well as relevant published literature (4,21,29,32).

TABLE 3. EXERCISE SELECTION FOR THE SIX MAJOR MOVEMENT PATTERNS WITHIN THE THREE STAGES OF IRRITABILITY IN CLIENTS WITH LOW BACK PAIN

MOVEMENT	HARDEST DIFFICULTY	MODERATE DIFFICULTY	EASIEST DIFFICULTY
Horizontal Row	<ul style="list-style-type: none"> • Dead-stop barbell bent-over row • Barbell bent-over row 	<ul style="list-style-type: none"> • One arm stabilized bent-over row • Seated cable row 	<ul style="list-style-type: none"> • Chest-supported machine row • Prone supported dumbbell row
Horizontal Press	<ul style="list-style-type: none"> • Feet-hovering bench press • Barbell/dumbbell bench press 	<ul style="list-style-type: none"> • Counter/knee push-up • Machine press 	<ul style="list-style-type: none"> • Machine pec flys • Wall push-ups
Vertical Pull	<ul style="list-style-type: none"> • Pull-ups/weighted pull-ups • Single-arm pulldown 	<ul style="list-style-type: none"> • Machine-assisted pull-ups • Cable pulldowns 	<ul style="list-style-type: none"> • Prone shoulder extension • Cable chest-supported double- or single-arm lat pulldown
Vertical Press	<ul style="list-style-type: none"> • Overhead barbell press/push-press • Floor-seated dumbbell or barbell overhead press 	<ul style="list-style-type: none"> • Seated barbell/dumbbell press • Seated pin-press 	<ul style="list-style-type: none"> • Chest supported dumbbell/cable lateral raises • Machine overhead press
Squat	<ul style="list-style-type: none"> • Low/high bar squat • Front squat 	<ul style="list-style-type: none"> • Step up to box • Barbell/kettlebell box squat 	<ul style="list-style-type: none"> • Leg extensions • Leg press
Hip Hinge	<ul style="list-style-type: none"> • Barbell deadlift • Barbell deficit deadlift 	<ul style="list-style-type: none"> • Trap bar deadlift • Hip thrust 	<ul style="list-style-type: none"> • Hip hinges • Supine double-leg bridges

**This table is constructed based on a hybrid of research as well as practical experience of the authors working with clients with low back pain.*

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This article provides context to the personal trainer regarding the considerations needed when clients present with LBP as well as exercise modifications that could be used to help maximize exercise adherence. The personal trainer should not attempt to treat LBP but should recognize the current guidelines indicating exercise is a front-line approach to management of clients with LBP. In summary, personal trainers should recognize that LBP is relatively common in the general population and rarely indicates a serious condition. However, consultation or referral with a medical provider is warranted if symptoms interfere with exercise performance. This article provides a classification system of irritability based on prior research in other body regions that the personal trainer can use to design an exercise program in conjunction with the guidance of medical providers. Lastly, this article also includes a movement classification system that can be integrated not only in those with LBP, but in general training to help promote overall muscular development.

REFERENCES

1. Aguilar-Shea, AL, Gallardo-Mayo, C, Sanz-González, R, and Paredes, I. Sciatica. Management for family physicians. *Journal of Family Medicine and Primary Care* 11(8): 4174-4179, 2012.
2. Almeida, M, Saragiotto, B, and Maher, CG. Primary care management of non-specific low back pain: key messages from recent clinical guidelines. *Medical Journal of Australia* 209(5): 235-235, 2018.
3. American College of Sports Medicine. American College of Sports Medicine position stand. Progression models in resistance training for healthy adults. *Medicine and Science in Sports Exercise* 41(3): 687-708, 2009.
4. Androulakis-Korakakis, P, Fisher, JP, and Steele, J. The minimum effective training dose required to increase 1RM strength in resistance-trained men: A systematic review and meta-analysis. *Sports Medicine* 50(4): 751-765, 2020.
5. Barnett, C, Kippers, V, and Turner, P. Effects of variations of the bench press exercise on the EMG activity of five shoulder muscles. *Journal of Strength and Conditioning Research* 9(4): 222, 1995.
6. Burton, I. Autoregulation in resistance training for lower limb tendinopathy: A potential method for addressing individual factors, intervention issues, and inadequate outcomes. *Frontiers in Physiology* 12: 2021.
7. Chang, DG, Holt, JA, Sklar, M, and Groessl, EJ. Yoga as a treatment for chronic low back pain: A systematic review of the literature. *Journal of Orthopaedic Rheumatology* 3(1): 1-8, 2016.
8. Davids, K, Glazier, P, Araújo, D, and Bartlett, R. Movement systems as dynamical systems: the functional role of variability and its implications for sports medicine. *Sports Medicine* 33(4): 245-260, 2003.
9. DePalma, MG. Red flags of low back pain. *Journal of the American Academy of PAs* 8: 8-11, 2020.
10. Downie, A, Williams, CM, Henschke, N, Hancock, MJ, Ostelo, RWJG, de Vet, HCW, et al. Red flags to screen for malignancy and fracture in patients with low back pain: Systematic review. *BMJ* 347, 2013.
11. Fragala, MS, Cadore, EL, Dorgo, S, Izquierdo, M, Kraemer, WJ, Peterson, MD, et al. Resistance training for older adults: Position statement from the National Strength and Conditioning Association. *Journal of Strength and Conditioning Research* 33(8): 2019-2052, 2019.
12. Gibbs, MT, Morrison, NM, Raftery, S, Jones, MD, and Marshall, PW. Does a powerlifting inspired exercise programme better compliment pain education compared to bodyweight exercise for people with chronic low back pain? A multicentre, single-blind, randomised controlled trial. *Clinical Rehabilitation* 36(9): 1199-1213, 2022.
13. Gibbs, MT, Morrison, NMV, Jones, MD, Burgess, D, and Marshall, PW. Reductions in movement-associated fear are dependent upon graded exposure in chronic low back pain: An exploratory analysis of a modified 3-item fear hierarchy. *Musculoskeletal Care* 2022.
14. Harøy, J, Clarsen, B, Wiger, EG, Øyen, MG, Serner, A, Thorborg, K, et al. The Adductor Strengthening Programme prevents groin problems among male football players: A cluster-randomised controlled trial. *British Journal of Sports and Medicine* 53(3): 150-157, 2019.
15. Henschke, N, Maher, CG, Ostelo, RWJG, de Vet, HCW, Macaskill, P, and Irwig, L. Red flags to screen for malignancy in patients with low-back pain. *Cochrane Database Systematic Reviews* 2, 2013.
16. Hickey, JT, Timmins, RG, Maniar, N, Rio, E, Hickey, PF, Pitcher, CA, et al. Pain-free versus pain-threshold rehabilitation following acute hamstring strain injury: A randomized controlled trial. *Journal of Orthopaedic Sports and Physical Therapy* 50(2): 91-103, 2020.
17. Jackson, JK, Shepherd, TR, and Kell, RT. The influence of periodized resistance training on recreationally active males with chronic nonspecific low back pain. *Journal of Strength and Conditioning Research* 25(1): 242-251, 2011.
18. Kell, RT, and Asmundson, GJG. A comparison of two forms of periodized exercise rehabilitation programs in the management of chronic nonspecific low-back pain. *Journal of Strength and Conditioning Research* 23(2): 513-523, 2009.
19. Kell, RT, Risi, AD, and Barden, JM. The response of persons with chronic nonspecific low back pain to three different volumes of periodized musculoskeletal rehabilitation. *Journal of Strength and Conditioning Research* 25(4): 1052-1064, 2011.
20. Konstantinou, K, and Dunn, KM. Sciatica: Review of epidemiological studies and prevalence estimates. *Spine* 33(22): 2464-2472, 2008.

21. Kraemer, WJ, and Ratamess, NA. Fundamentals of resistance training: Progression and exercise prescription. *Medicine and Science in Sports Exercise* 36(4): 674-688, 2004.
22. Lin, I, Wiles, L, Waller, R, Goucke, R, Nagree, Y, Gibberd, M, et al. What does best practice care for musculoskeletal pain look like? Eleven consistent recommendations from high-quality clinical practice guidelines: Systematic review. *British Journal of Sports Medicine* 54(2): 79-86, 2020.
23. Longtin, C, Décarry, S, Cook, CE, and Tousignant-Laflamme, Y. What does it take to facilitate the integration of clinical practice guidelines for the management of low back pain into practice? Part 1: A synthesis of recommendation. *Pain Practice* 21(8): 943-954, 2021.
24. Maher, C, Underwood, M, and Buchbinder, R. Non-specific low back pain. *Lancet* 389(10070): 736-747, 2017.
25. Meng, X-G, and Yue, S-W. Efficacy of aerobic exercise for treatment of chronic low back pain: A meta-analysis. *American Journal of Physical Medicine and Rehabilitation* 94(5): 358-365, 2015.
26. NSCA, Hoffman, JR. In: Hoffman, J (Ed.), *NSCA's Guide to Program Design*. (First ed.) Champaign, IL: Human Kinetics; 312, 2011.
27. Oliveira, CB, Maher, CG, Pinto, RZ, Traeger, AC, Lin, C-WC, Chenot, J-F, et al. Clinical practice guidelines for the management of non-specific low back pain in primary care: An updated overview. *European Spine Journal* 27(11): 2791-2803, 2018.
28. Ouellet, P, LaFrance, S, Pizzi, A, Roy, J-S, Lewis, J, Christiansen, DH, et al. Region-specific exercises vs general exercises in the management of spinal and peripheral musculoskeletal disorders: A systematic review with meta-analyses of randomized controlled trials. *Archives of Physical Medicine and Rehabilitation* 102(11): 2201-2218, 2021.
29. Peterson, MD, Rhea, MR, and Alvar, BA. Applications of the dose-response for muscular strength development: A review of meta-analytic efficacy and reliability for designing training prescription. *Journal of Strength and Conditioning Research* 19(4): 950-958, 2005.
30. Pojednic, R, Bantham, A, Arnstein, F, Kennedy, MA, and Phillips, E. Bridging the gap between clinicians and fitness professionals: A challenge to implementing exercise as medicine. *BMJ Open Sport and Exercise Medicine* 4(1): 2018.
31. Sayres, LR. Defining irritability: The measure of easily aggravated symptoms. *British Journal of Therapy and Rehabilitation* 4(1): 18-37, 1997.
32. Schoenfeld, BJ, Ogborn, D, and Krieger, JW. Dose-response relationship between weekly resistance training volume and increases in muscle mass: A systematic review and meta-analysis. *Journal of Sports Science* 35(11): 1073-1082, 2017.
33. Sharma, H, Lee, SWJ, Cole, AA. The management of weakness caused by lumbar and lumbosacral nerve root compression. *Journal of Bone and Joint Surgery British* 94(11): 1442-1447, 2012.
34. Silbernagel, KG, Thomeé, R, Eriksson, BI, and Karlsson, J. Continued sports activity, using a pain-monitoring model, during rehabilitation in patients with Achilles tendinopathy: A randomized controlled study. *American Journal of Sports Medicine* 35(6): 897-906, 2007.
35. Tataryn, N, Simas, V, Catterall, T, Furness, J, and Keogh, JW. Posterior-chain resistance training compared to general exercise and walking programmes for the treatment of chronic low back pain in the general population: A systematic review and meta-analysis. *Sports Medicine - Open* 7(1): 17, 2021.
36. Thomeé, R. A comprehensive treatment approach for patellofemoral pain syndrome in young women. *Physical Therapy* 77(12): 1690-1703, 1997.
37. Vincent, HK, George, SZ, Seay, AN, Vincent, KR, and Hurley, RW. Resistance exercise, disability, and pain catastrophizing in obese adults with back pain. *Medicine and Science in Sports Exercise* 46(9): 1693-1701, 2014.
38. Vroomen, PC, de Krom, MC, Slofstra, PD, and Knottnerus, JA. Conservative treatment of sciatica: A systematic review. *Journal of Spinal Disorders* 13(6): 463-469, 2000.
39. Williams, CM, Henschke, N, Maher, CG, van Tulder, MW, Koes, BW, Macaskill, P, et al. Red flags to screen for vertebral fracture in patients presenting with low-back pain. *Cochrane Database Systematic Reviews* 1, 2013.
40. Yamato, TP, Maher, CG, Saragiotto, BT, Hancock, MJ, Ostelo, RWJG, Cabral, CMN, et al. Pilates for low back pain. *Sao Paulo Medicine Journal* 134(4): 366-367, 2016.

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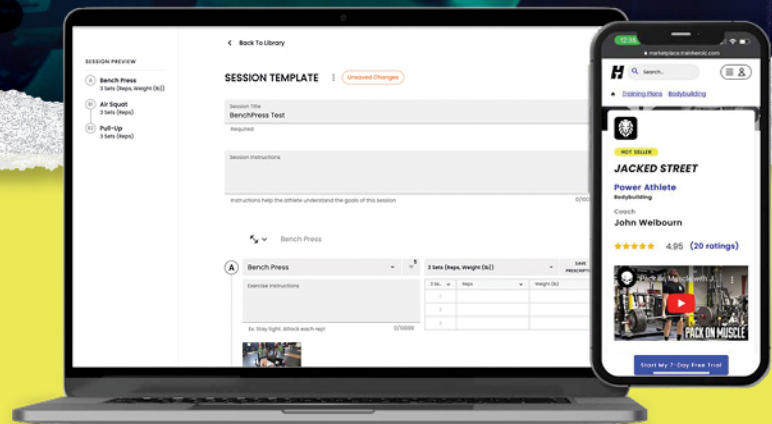
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