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# DHA TELEHEALTH CLINICAL GUIDELINES

## FOR VIRTUAL MANAGEMENT

### OF ACUTE LOW BACK PAIN – 15

Version 1

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## INTRODUCTION

Dubai Health Authority (DHA) is the responsible entity for regulating, licensing and monitoring health facilities and healthcare professionals in the Emirate of Dubai. The Health Regulation Sector (HRS) is an integral part of DHA and was founded to fulfil the following overarching strategic objectives:

Objective #1: Regulate the Health Sector and assure appropriate controls are in place for safe, effective and high-quality care.

Objective #2: Position Dubai as a global medical destination by introducing a value-based, comprehensive, integrated and high-quality service delivery system.

Objective #3: Direct resources to ensure happy, healthy and safe environment for Dubai population.

## ACKNOWLEDGMENT

This document was developed for the Virtual Management of Acute Low Back Pain in collaboration with Subject Matter Experts. The Health Policy and Standards Department would like to acknowledge and thank these professionals for their dedication toward improving the quality and safety of healthcare services.

### The Health Regulation Sector

### Dubai Health Authority

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## EXECUTIVE SUMMARY

Telehealth is based on Evidence Based Practice (EBP) which is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient.

It means integrating individual clinical expertise with the best available external clinical evidence and guidelines from systematic research.

EBP is important because it aims to provide the most effective care virtually, with the aim of improving patient outcomes. As health professionals, part of providing a professional service is ensuring that practice is informed by the best available evidence.

This guideline is presented in the format comprising of clinical history/symptoms, differential diagnosis, investigations and management. Identification of 'Red Flags' or serious conditions associated with the disease is an essential part of this telehealth guideline as it aids the physician to manage patients safely and appropriately by referrals, if indicated during virtual telehealth assessment, to ER, family physicians or specialists for a face to face management.

Low back pain is one of the most frequently encountered conditions in the community.

The primary purpose of this Telehealth Guideline is to provide the health physicians, who will be managing patients virtually, with a summary of the best available evidence for the virtual management of this very common condition among adults.

This guideline identifies key "Red Flags" or serious symptoms associated with low back pain which warrant a referral to ER or specialist for further face-to-face management

## DEFINITIONS/ABBREVIATIONS

**Virtual Clinical Assessment:** Is the evaluation of the patient's medical condition virtually via telephone or video call consultations, which may include one or more of the following: patient medical history, physical examination and diagnostic investigations.

**Patient:** The person who receives the healthcare services or the medical investigation or treatment provided by a DHA licensed healthcare professional.

## ABBREVIATIONS

<b>ADL</b>	:	Activity of Daily Living
<b>DHA</b>	:	Dubai Health Authority
<b>EBP</b>	:	Evidence Based Practice
<b>ER</b>	:	Emergency Room
<b>KPI</b>	:	Key Performance Indicator
<b>LBP</b>	:	Low Back Pain
<b>MRI</b>	:	Magnetic Resonance Imaging
<b>NSAIDs</b>	:	Non-Steroidal Anti-Inflammatory Drugs

## 1. BACKGROUND

- 1.1. It is estimated that up to 84 percent of adults have low back pain at some time in their lives. For many individuals, episodes of back pain are self-limited. Patients who continue to have back pain beyond the acute period (four weeks) have subacute back pain (lasting between 4 and 12 weeks) and may go on to develop chronic back pain (persists for  $\geq 12$  weeks). Rarely, back pain is a harbinger of serious medical illness.
- 1.2. Risk factors associated with back pain complaints include smoking, obesity, age, female gender, physically strenuous work, sedentary work, psychologically strenuous work, low educational attainment, job dissatisfaction, and psychological factors such as somatization disorder, anxiety, and depression.

## 2. SCOPE

- 2.1. Telehealth services in DHA licensed Health Facilities.

## 3. PURPOSE

- 3.1. To support the implementation of Telehealth services for patients with complaints of Acute Low Back Pain in Dubai Health Authority (DHA) licensed Health Facilities

## 4. APPLICABILITY

- 4.1. DHA licensed physicians and health facilities providing Telehealth services.
- 4.2. Exclusion for Telehealth services are as follows
  - 4.2.1. Emergency cases where immediate intervention or referral is required.
  - 4.2.2. Prescribe Narcotics, Controlled or Semi-Controlled medications.

## 5. RECOMMENDATIONS

### 5.1. Virtual Clinical Assessment

#### 5.1.1. In telemedicine consultation, physician should aim to:

- a. Firstly, establish that the patient has mechanical low back pain, as opposed to other causes.
- b. Secondly, narrow down the diagnosis;
- c. Thirdly, decide whether referral or further management is required, and how urgently.

## 6. CLINICAL HISTORY/SYMPTOMS

While it may not be possible to define a precise cause of low back symptoms for most patients, it is important to evaluate for evidence of specific etiologies of back pain. The history should include:

### 6.1. The details of the current pain:

- 6.1.1. Site of pain/location
- 6.1.2. Onset of pain
- 6.1.3. Duration,
- 6.1.4. Severity of the pain
- 6.1.5. Character or quality of pain
- 6.1.6. Radiation
- 6.1.7. Timing

- 6.1.8. Aggravating and relieving factors
- 6.1.9. Details of any prior back pain
- 6.1.10. How current symptoms compare with any previous back pain, if any.
- 6.1.11. Patients should also be evaluated for social or psychologic distress that may be contributing. Screening for depression may be helpful
- 6.1.12. Find out the mechanism of injury, if any, and its relation to the onset of pain.
- 6.1.13. Determine what medications or treatments have been utilized (NSAIDS, chiropractor, acupuncture, cold or hot compresses, etc.)
- 6.1.14. Determine what functional limitations have resulted due to the pain (work, hobbies, ADLs)
- 6.1.15. Ask about emotional consequences of the injury, the goals of treatment and the visit, and concerns the patient may have (about return to occupation, possibility of being on disability, requirement for pain medications).

## 7. RED FLAGS

Evaluate the possibility of more serious causes for the back pain - ask about symptoms that may indicate systemic disease or infection, or neurological impairments. Ask in particular the following symptoms

- 7.1. Any unintentional or unexplained weight loss



- 7.2. Fever or night sweats
- 7.3. History of malignancy
- 7.4. History of osteoporosis
- 7.5. Neurologic symptoms. Examples include;
  - 7.5.1. weakness,
  - 7.5.2. falls or gait instability,
  - 7.5.3. numbness or other sensory changes,
  - 7.5.4. or problems with bladder or bowel control
- 7.6. Any trauma or fall
- 7.7. Stability or progression of symptoms,
- 7.8. History of recent bacterial infections (particularly bacteremia),
- 7.9. Recent history or current use of injection drugs,
- 7.10. History or current use of corticosteroid medications,
- 7.11. Recent history of procedures in the back.

## 8. DIFFERENTIAL DIAGNOSIS

### 8.1. Mechanical Low Back Pain:

The most common cause of back pain. Mechanical LBP refers to pain that is diffusely related to soft tissues. In the absence of red flags, most complaints of back pain can be diagnosed as mechanical. However, it is important to consider and rule out disc pain, degenerative and inflammatory etiologies before concluding that the problem

is 'mechanical'. Management is conservative and involves patient education about the need to get back to normal activities as soon as possible. This problem must be managed carefully to avoid the development of chronic pain.

## 8.2. Ankylosing Spondylitis (AS).

A seronegative arthropathy that most commonly affects young men and involves pain in lower back and gluteal area. It often features an insidious onset (>3 months) with increased pain and stiffness in the morning (>30 minutes). Pain decreases with exercise and increases with rest. It is often associated with uveitis and colitis.

## 8.3. Disc Herniation.

8.3.1. It is important to keep in mind that only 5% of presentations of back pain have a discogenic etiology. Disc herniation presents most commonly in those who are 30-40 years old. The onset of pain occurs over hours to days, lasts weeks to months, and is worse on flexion. The pain is predominantly distributed in the lower part of the lower extremity and never solely in the back. The pain is a sharp, lancinating quality often described as “shooting” and “shock-like”. The pain worsens with sneezing or bending over (maneuvers that increase intra-spinal pressure). Unilateral symptoms usually indicate a lateral herniation as opposed to a central disc herniation.

8.3.2. 95% of disc herniations occur at the L4-L5 or L5-S1 vertebrae. In general, discogenic pain follows the nerve root distribution of one level below the herniated disc. For example, an L4-L5 herniated disc would result in a L5 distribution corresponding to pain sensation extending to the dorsum of the foot. However, in cases of far lateral disc herniations, the dermatomal distribution corresponds to the level of disc herniation.

8.3.3. Management of disc herniation is conservative and similar to mechanical low back pain. Symptoms usually improve regardless of treatment within 6 weeks. No investigations should be ordered in the absence of red flags. Referral for surgery is made if neurological status worsens progressively or if pain persists without improvement for > 6 weeks. However, central disc herniation in the lumbosacral area can lead to Cauda Equina syndrome, which is a surgical emergency.

#### 8.4. Lumbar Spinal Stenosis.

Uncommon before age 60. Presents with pain in both legs aggravated by walking, standing, or extension and relieved by sitting or bending forward. Also called neurogenic claudication, it must be differentiated from vascular claudication. The latter presents with calf pain that comes on after a specific amount of exercise and only improves with rest, not with bending forward.

#### 8.5. Facet Joint Pain.

A fairly common cause of mechanical LBP. It features pain that has onset in minutes to hours, lasts days to weeks, and is worse on extension. Often associated with osteophytes that accompany osteoarthritis.

8.6. Spinal Infection.

Uncommon condition representing only 0.01% of all back pain. Patients generally have symptoms of infection including fever, rigors, and malaise. The pain is not relieved with rest and is provoked by weight bearing.

8.7. Tumor.

Pain is not relieved with rest and is unrelated to position. On history, the patient describes progressively worsening pain. During the Teleconsultation, it should also be elicited if the pain is made worse by lying down which will indicate a tumor. Unrelenting night pain is considered tumor until proven otherwise.

8.8. Rheumatoid Arthritis.

Generally associated with numerous other arthropathies, especially of smaller joints in a symmetrical pattern. Mostly affects middle aged women and features morning stiffness (>30 minutes), and possibly intermittent periods of flare-ups and remission.

8.9. Osteoarthritis.

Very common, especially with age, but unusual to have symptoms before middle age. Pain is worse with use and is slowly progressive.

8.10. Fracture Associated with osteoporosis (or other pathology), and with trauma.

The pain will be sudden and may include neurologic symptoms. A vertebral fracture should be ruled out with imaging when complaints of acute back pain are accompanied with a history of trauma (such as a fall) or in an elderly patient. If osteoporosis is suspected, patient must be referred. Note that vertebral fractures can present in individuals of all age groups when due to trauma induced by Motor Vehicle Accidents (MVAs) or high-risk activities.

8.11. Spondylolisthesis.

8.11.1. Slippage of L5 on S1. Represents 2% of back pain but is more common in athletes or in women over 40. Loss of lumbar lordosis is evident, and a step over L5 is palpable. The back pain often radiates into the knees.

8.11.2. Spondylolysis Fracture in a vertebra, often of the pars interarticularis. Commonly occurs via stress fracture, and usually affects L5. Mechanism of injury often involves overtraining in sports like tennis, gymnastics and soccer. Spondylolysis is the most common cause of spondylolisthesis in children.

8.12. Fibromyalgia

Women account for 75% of patients with fibromyalgia. Symptoms persist for >3 months and are worse in morning and at end of day. Patient suffers from severe fatigue, widespread pain, difficulty sleeping, and often anxiety/depression.

### 8.13. Cauda Equina Syndrome

Low back pain, unilateral or usually bilateral sciatica, saddle sensory loss, bladder and/or bowel dysfunction, and variable lower extremity motor or sensory loss. It is a surgical emergency. Immediate referral to the ER for an emergency neurosurgical consult is important to prevent permanent neurological damage. Without treatment, the patient may suffer from paraplegia and bowel/bladder incontinence.

## 9. MANAGEMENT

- 9.1. Refer to APPENDIX 1 for the Virtual Management of Acute Low Back Pain Algorithm
- 9.2. The key components in the strategy for acute low back pain management include screening for red flags; patient reassurance and education once red flags are ruled out; and symptom management.
- 9.3. By empathizing with patients and their pain, a good rapport is established, and the patient is more likely to be receptive to discussions regarding the nature of acute low back pain. A key message in such discussions is that pain does not equal harm. Patients need to come to the understanding that the majority of individuals suffering from acute LBP do get better and do not suffer from a poorer quality of life because of their back pain.
- 9.4. Non-pharmacological management

- 9.4.1. The most important aspect in managing acute LBP is to encourage patients to take an active role in their back-pain management by resuming their daily activities including work. An early return to normal activity and work are related to lower rates of recurrence and disability. Strategies that may help in this regard include discussing work modification options with the patient. Patients may experience pain as they attempt to resume a normal course of activity. Patients should be reassured that pain does not equate to further spinal damage and that an active lifestyle within tolerable pain limits is key to recovery. Activities may be modified according to pain tolerance; however, it is important to emphasize that patients should make every effort to a gradual return to normal activity.
- 9.4.2. Ongoing symptom review and management are also important. At least a fortnightly follow-up call should be arranged with the patient after the initial assessment. Each assessment should include a review of symptoms to screen for red flags (mentioned above). Consider referral if the patient has unremitting pain 4 weeks after symptom onset.

9.5. Pharmacotherapy:

- 9.5.1. Initial therapy — If pharmacotherapy is used, the following (two to four weeks) treatment of a nonsteroidal anti-inflammatory drug (NSAID) are recommended.
- 9.5.2. Nonsteroidal anti-inflammatory drugs — start with NSAID therapy in patients with acute low back pain without contraindications to this therapy. Many NSAID options exist but generally start with either
- Ibuprofen (ADULT and CHILD over 12 years, initially 300–400 mg 3– 4 times daily; increased if necessary, to max. 2.4g daily; maintenance dose of 0.6–1.2g daily may be adequate) or
  - Naproxen (500mg initially, then 250mg every 6–8 hours as required; max. dose after first day 1.25g daily). Doses should be decreased as tolerated.
- 9.5.3. NSAIDs provide modest symptomatic relief for acute low back pain. However, NSAIDs may have significant renal, gastrointestinal, and cardiovascular adverse effects and may be contraindicated in some patients. All NSAID toxicities are more common in older patients.
- 9.5.4. Paracetamol (Panadol) has historically been considered an option for first-line therapy for low back pain. However, evidence of efficacy has been mixed in the past. In selected patients for whom there are no safe



alternatives and acetaminophen is the least potentially harmful treatment, it is reasonable to consider a trial of acetaminophen as initial therapy. Dosage of paracetamol for adults is by mouth, 0.5–1g every 4–6 hours to a max. of 4g daily;

9.5.5. Second-line therapy— For patients with pain refractory to initial pharmacotherapy, the addition of a nonbenzodiazepine muscle relaxant such as Tolperisone (mydocalm) (150mg three times a day maximum) is advised. In patients who cannot tolerate or have contraindications to muscle relaxants, combining NSAIDs and paracetamol is another option, though there are few data to support the use of this combination.

9.5.6. For severe back pain, or pain that is not relieved by combination of NSAID, muscle relaxant and paracetamol, then patient should be referred to specialist / hospital so that he/she could be considered for opioids (which are controlled drugs). Patients should be advised regarding the side effects associated with muscle relaxant and opioid use.

9.6. Non-medical Treatments:

9.6.1. There is currently weak or conflicting evidence for the utility of the following therapeutic modalities in treating acute LBP: acupuncture, TENS, back specific exercises, and spinal injections (e.g. facet, epidural). A recent Cochrane Review showed benefit from massage for chronic low

back pain. If the patient is having difficulty following an active exercise program, a supervised exercise program/therapy may be of some benefit.

Manipulation techniques may be beneficial in acute LBP.

## 10. REFERRAL CRITERIA

### 10.1. Referral criteria to ER

If patients have the following symptoms, then urgent referral to ER will be need:

- 10.1.1. Severe pain not relieved by the oral medication
- 10.1.2. Night-time pain,
- 10.1.3. Recent bacterial infection (particularly bacteremia),
- 10.1.4. Fever which increase the suspicion of spinal infection
- 10.1.5. Recently had a fall or an injury to the back
- 10.1.6. Has numbness or weakness in legs
- 10.1.7. Have urinary retention or urinary incontinence
- 10.1.8. New fecal incontinence
- 10.1.9. Weakness / motor deficit
- 10.1.10. Recent spinal procedure

### 10.2. Referral to specialist should also be made if patient has the following:

- 10.2.1. Patients who have not improved after four to six weeks of conservative therapy and who did not receive imaging on initial evaluation
- 10.2.2. Unresponsiveness to previous therapies.

- 10.2.3. Suspected spinal osteoarthritis – referral should be considered for older patients with persistent back pain in whom there is concern for osteoarthritis of the hip referred to the back or for whom the mechanical adaptations to hip osteoarthritis are causing back pain.
- 10.2.4. If patient symptoms require analgesia that are considered ‘controlled drugs’ such as opiates.
- 10.2.5. Features that may suggest underlying systemic disease include:
  - a. history of cancer or suspected cancer.
  - b. unexplained weight loss,
  - c. duration of pain >1 month,
- 10.2.6. If imaging is required. Please see below for more details about the indication for imaging
- 10.2.7. Prolonged use of steroid medicine, such as prednisolone
- 10.2.8. Has a history of osteoporosis
- 10.3. Imaging
  - 10.3.1. Indications for imaging
    - a. The majority of patients with low back pain of less than four weeks duration do not require imaging. Most patients who call for Teleconsultation will have nonspecific pain without associated symptoms and will improve rapidly. Inappropriate referral to

hospitals for lumbar imaging can lead to irrelevant findings and trigger additional costly studies, unneeded treatments, and unwarranted surgical interventions

- b. Additionally, imaging exams often show abnormal findings in adults without low back pain, which makes it difficult to determine which imaging findings are clinically significant.
- c. Even when the radiographic findings are consistent with clinical presentation, the magnitude of radiographic findings does not necessarily correlate with clinical severity and outcome, and clinical improvement may not correlate with resolution of the radiographic defect.

#### 10.3.2. Counseling patients who request imaging where there are no clinical indications

Patients often expect that they will be referred for imaging after their initial call for back pain. Although it is not possible to provide a definitive physiologic diagnosis for low back pain in most patients, doctors can reassure patients without concerning history findings that they appear to have "mechanical" or nonspecific low back pain, and that it is very unlikely that they have a serious underlying problem. Patients should be assured that improvement is to be expected and should be advised that:

- a. They are unlikely to have a serious underlying condition.
- b. Incidental imaging findings, unrelated to their pain, are common, and may lead to unnecessary further tests or interventions.
- c. Imaging is appropriate if they do not improve as expected.
- d. Follow-up calls should be arranged weekly to assess for improvement.
- e. Patient should be educated about red flags and must be advised to call back or go to hospital if they develop any of the Red Flags symptoms,

Patients who perceive that they have received an adequate explanation for the cause of their problem are less likely to want additional diagnostic tests and more likely to be satisfied with the call than those who do not think they have been given an adequate explanation.

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## APPENDIX 1 – VIRTUAL MANAGEMENT OF ACUTE LOW BACK PAIN

