

Mechanical back strain is a prevalent condition. Most patients who develop a mechanical back strain have a benign course; however, some will continue to have chronic, disabling symptoms. E/M is conservative care. Providers must differentiate between other causes of back pain. A lumbar strain, a painful traumatic tear of the large posterior muscles of the back (e.g., quadratus lumborum, erector spinae). Injuries are more common in sports. Note that occasionally DOMs (delayed onset muscle soreness) may occur after a workout and may be severe enough to temporarily mimic a muscle strain, but will usually peak in about 24-48 hours and resolves within a few days to a week.

Note: "Strain" is a problematic term. It can be used to denote a tear in a muscle (or tendon) as used in this document, but in biomechanical terminology it can also refer to a load that deforms any tissue (e.g., muscle, bone or ligament). It has frequently been used in conjunction with sprain (i.e., sprain-strain) to label presumed tissue damage to the spine and intrinsic muscles or as a general label for non-specific low back pain. It is used here to denote a true tear of the more superficial large torque producing muscles.

History	
<ul style="list-style-type: none"> • Dull, achy back pain • Commonly bilateral nonlocalized • Referred leg pain is rare 	<ul style="list-style-type: none"> • HX of trauma • Uncommon disorder

Physical Exam Findings	
<p>Observation/Posture</p> <ul style="list-style-type: none"> • Guarded posture • Superficial bruising may be present <p>AROM</p> <ul style="list-style-type: none"> • Protective restricted AROM • Pain with passive stretch of injured muscle 	<p>General Orthopedic Tests</p> <ul style="list-style-type: none"> • Pain provoked by lumbar flexion and especially by resisted lumbar extension (e.g., active prone extension test)

Ancillary Tests	
<ul style="list-style-type: none"> • MSK ultrasound (rarely needed) 	<ul style="list-style-type: none"> • Labs are not useful

Treatment Options	
<p>Manual Therapy</p> <ul style="list-style-type: none"> • Light effleurage & grade I-II joint mobilization (acute phase) • Joint manipulation & SMT (e.g., sports massage, PIR, CRAC, pin & stretch, cross fiber, instrument assisted soft tissue manipulation). <p>Exercise</p> <ul style="list-style-type: none"> • Light stretching/muscle relaxation exercises (PIR) • Late subacute phase: extension endurance exercises (e.g., superman on a ball exercises). • Core stability program 	<p>Activity Modification</p> <ul style="list-style-type: none"> • In acute phase, limit end range flexion, lifting, or extension exercises/activities against resistance. • Sports activities requiring full ROM under load should be avoided until pain free. <p>Other options</p> <ul style="list-style-type: none"> • Ice, muscle stim (acute), heat (subacute) • Light weight lumbosacral corset

Potential ICD 10 Codes	
<ul style="list-style-type: none"> • S39.012A = Strain of muscle, tendon, fascia of low back 	<ul style="list-style-type: none"> • M54.51 = Vertebrogenic low back pain

DDX List for this Condition		
Musculoskeletal	Non-Musculoskeletal	
<ul style="list-style-type: none"> • Lumbar Facet Syndrome • Lumbar Joint Dysfunction • Myofascial Pain Syndrome 	<ul style="list-style-type: none"> • Rheumatologic - ankylosing spondylitis, Reiter syndrome, psoriatic spondylitis, polymyalgia rheumatica • Oncologic - metastatic disease, spinal cord tumor, lymphomas, leukemia, multiple myeloma • Infectious - spinal epidural abscess, osteomyelitis, discitis 	<ul style="list-style-type: none"> • Gastrointestinal - pancreatitis, cholecystitis, bowel perforation • Vascular - aortic aneurysm, spinal epidural hematoma, aortoiliac disease • Renal - pyelonephritis, nephrolithiasis, perinephric abscess • Genitourinary - endometriosis, prostatitis, pelvic inflammatory disease



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References

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