

Choosing Wisely in Primary Care: Do Not Routinely Offer Imaging for Uncomplicated Low Back Pain

Choosing Wisely Recommendation

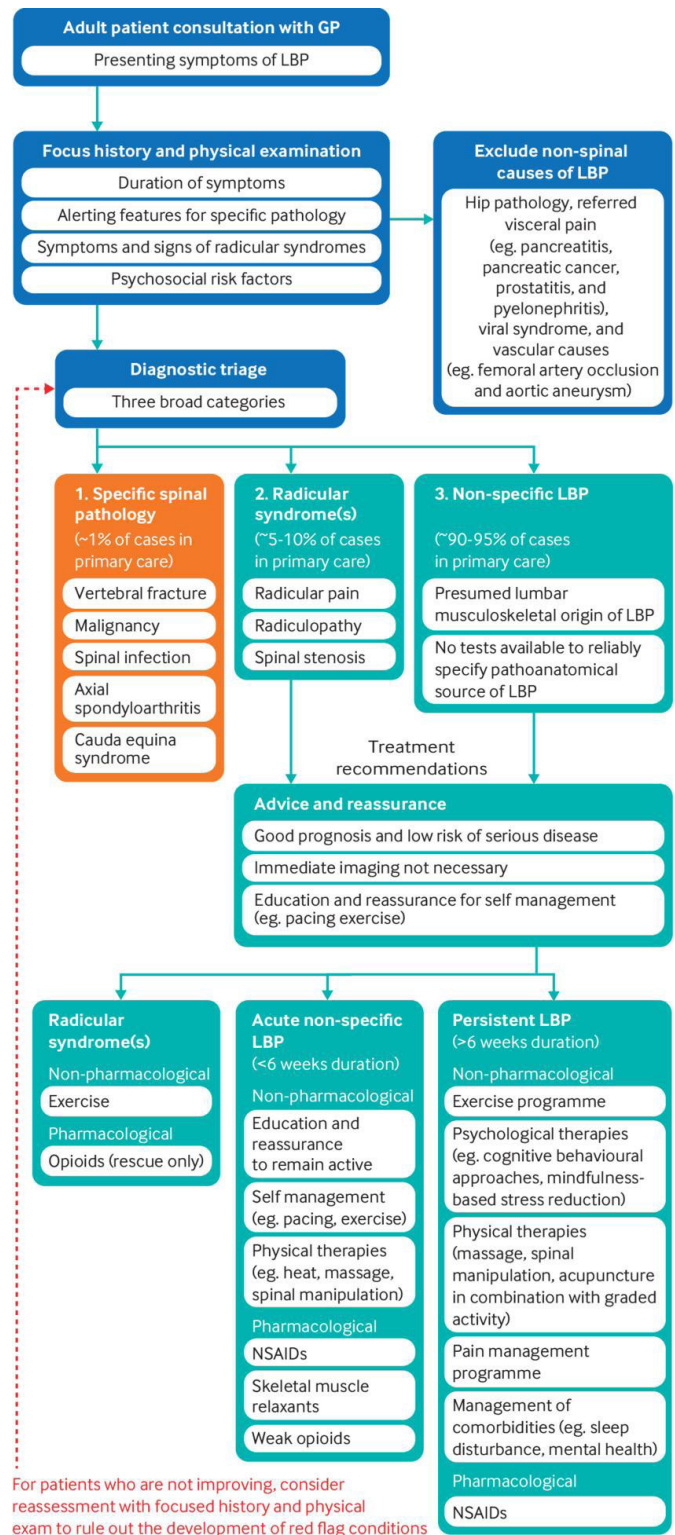
Don't routinely image patients with low back pain (LBP) regardless of the duration of symptoms unless: (a) there are clinical reasons to suspect serious underlying pathology (i.e., red flags), or (b) imaging is necessary for the planning and/or execution of a particular evidenced-based therapeutic intervention on a specific spinal condition.

Practice Points

1. Research from the past two decades indicates that imaging patients with LBP isn't useful for 90–95% of LBP cases (called non-specific or uncomplicated LBP); it is useful only in the small subgroup of patients (5–10%) for whom there is suspicion of red flag conditions (e.g., cancer, infection, inflammatory disease, fracture, and severe neurological deficits).
2. Imaging rates for LBP should therefore be decreasing, but, in fact, imaging has increased over the past 20 years; approximately one third of all images are unnecessary.

Methods (PI: A. Hall)

1. Evidence from randomized trials shows that imaging does not improve clinical outcomes and observational studies indicate that it may do more harm than good. When serious conditions are not suspected it is likely to prolong recovery in patients with non-specific LBP and increase work absence and unnecessary use of health services.
2. Recent systematic reviews show that physicians over-order to accommodate patient requests, because they believe it will reassure their patients, or because they don't have the time to explain and justify why images are not necessary.
3. Systematic reviews of surveys and interviews suggest that about half of patients expect imaging from their health provider because they believe it can help rule out a sinister cause for the pain. Some patients also mistakenly believe that imaging can better identify the cause of their pain than their physicians' physical exam or that the results of the imaging will inform a tailored treatment plan.



LBP = low back pain, NSAIDs = non-steroidal anti-inflammatory drugs

Figure 1. Visual Aid For Conducting Diagnostic Triage in Patients With LBP (Originally Reported by Bardin et al. and Traegar et al.)

Alerting features	Diagnosis and prevalence	Image type	Timing
<ul style="list-style-type: none"> Older age (>65 years for men, >75 years for women) Prolonged corticosteroid use Severe trauma Presence of contusion or abrasion 	Vertebral fracture 0.7% - 4.5%	X ray possible CT scan	<ul style="list-style-type: none"> Major risk: immediate Minor risk: 1 month "watch and wait"
<ul style="list-style-type: none"> History of malignancy Strong clinical suspicion Unexplained weight loss, >50 years 	Malignancy 0.2%	X ray and MRI	<ul style="list-style-type: none"> Major risk: immediate Minor risk: delay
<ul style="list-style-type: none"> Fever or chills Immune compromised patient Pain at rest or at night Intravenous drug user Recent injury, dental or spine procedure 	Spinal infection 0.01%	X ray and MRI	Immediate
<ul style="list-style-type: none"> New bowel or bladder dysfunction Perineal numbness or saddle anaesthesia Persistent or progressive lower motor neuron changes 	Cauda equina syndrome 0.04%	MRI	Immediate
<ul style="list-style-type: none"> Progressive lower limb motor weakness Motor deficits at multiple levels 	Severe neurologic deficits	MRI	Immediate
<p>Chronic back pain (>3 months' duration), with back pain onset before 45 years of age and one or more of the following</p> <ul style="list-style-type: none"> Inflammatory back pain with at least 4 of: <ul style="list-style-type: none"> - Age of onset 40 years or younger - Insidious onset - Improvement with exercise - No improvement with rest - Pain at night - with improvement when getting up Peripheral manifestations (in particular arthritis, enthesitis, or dactylitis) Extra-articular manifestation (psoriasis, inflammatory bowel disease, or uveitis) Positive family history of spondyloarthritis Good response to NSAIDs 	Axial spondyloarthritis 0.1% - 1.4%	Refer to rheumatologist if strong suspicion of axial spondyloarthritis	

Alerting features	Diagnosis and prevalence	Image type	Timing
<ul style="list-style-type: none"> Back pain with leg pain in an L4, L5, or S1 nerve root distribution Positive result on straight leg raise or crossed straight leg raise twist 	Radicular pain or radiculopathy	Consider MRI in patients who are candidates for surgery	Defer work up until a trial of therapy has been completed
<ul style="list-style-type: none"> Bilateral buttock, thigh, or leg pain Older age Pseudoclaudication 	Spinal canal stenosis	Consider MRI in patients who are candidates for surgery	Defer work up until a trial of therapy has been completed

CT = computed tomography, MRI = magnetic resonance imaging, NSAIDs = non-steroidal anti-inflammatory drugs
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Figure 2. Supplemental Decision Support Tool to Help Clinicians Identify the Small Group of Patients That Present With Suspected Red Flag Conditions

Results/Conclusions

Practice changes in four key areas are required to reduce imaging:

1. Diagnostic triage and management: Conducting a more thorough diagnostic triage will help clinicians better discern which patients fall into the non-specific LBP category.
2. Patient education: Clinicians should reassure patients that imaging is not required and provide self-management advice. Some key points to cover with patients to help with this task:
 - ◇ Most cases of LBP are simple strains and sprains of the back and improve rapidly just like a sprained ankle.
 - ◇ Imaging does not usually help to find the cause of the LBP or guide treatment. The treatment for most cases of LBP is the same with or without imaging.
 - ◇ Unnecessary imaging has risks like delayed recovery, radiation exposure, and unnecessary surgery.
 - ◇ Most imaging “findings” are indications of normal aging like grey hair and wrinkles and occur in patients without back pain so their relevance is unclear.
3. Communication style – four key physician behaviours can help patients feel reassured:
 - ◇ Summarize a patients’ medical history and conduct a thorough assessment to instill confidence that you have a firm grasp on the situation.
 - ◇ Demonstrate empathy and communicate your qualifications and experience to help patients feel that they are seeing the right professional for the job.
 - ◇ Recognize patients’ distress and avoid reductive statements like “nothing to worry about.”
 - ◇ Explain the likely cause(s) of LBP and provide a clear management plan.
4. Monitoring: Regular evaluation of image ordering practices and LBP outcomes relative to peers can provide reassurance to clinicians that any reductions in image-ordering have not resulted in patient harm.

See full published article at: <https://www.bmj.com/content/372/bmj.n291>