

Nonorganic findings—What are they?

Nonorganic findings are physical findings that do not have a direct anatomical cause and are distinct from physical findings of organic pathology. They were identified in 1980 by Waddell and colleagues.¹ Although these findings were initially described in patients with low back pain, they may be adapted to patients with neck pain—such as those injured in a car crash. According to Waddell, nonorganic findings “provide a simple and rapid screen to help identify the few patients who require more detailed evaluation.” The observation of nonorganic signs is one aspect of the physical examination and is independent of the anatomical and physiological components.

What are the five types of nonorganic findings?

- 1. Tenderness—superficial, non-anatomic, or both:** Tenderness to superficial light touch that would not normally result in pain is a nonorganic finding. Similarly, tenderness over an area that does not have an anatomical basis, such as a dermatome or specific nerve distribution, is a positive Waddell sign.
- 2. Distraction:** Distraction tests are movements that are tested formally and then repeated when the patient is distracted or in a different position. For example, a patient may appear to have full, active, painfree range of motion of the neck prior to the formal examination, but when asked to perform certain movements, a significant disparity in range of motion or complaints of pain is noted.
- 3. Regional—weakness, sensory, or both:** Regional disturbances of sensation or motor function are those that do not follow an anatomical pathway. An example would be a complaint of abnormal sensation in a glove distrib-

ution or the entire arm. Motor complaints may follow the same non-anatomical distribution. Motor testing may show a cog-wheeling type of weakness rather than the smooth weakness noted in organic motor pathology.

Nonorganic findings, especially findings in three or more of the five types, indicate psychosocial factors that need to be considered in the management of patients.

- 4. Overreaction:** Overreaction is self-explanatory and may be expressed as excessive vocalizations, pulling away, grimacing, collapsing, tremor, and so forth, out of proportion to the stimulus, such as light touch.
- 5. Simulation testing—rotation and axial loading:** Simulation testing is testing that mimics part of the usual physical examination but is fundamentally different. To examine the low back using rotation, have the patient stand; hold his or her hands against the hips or upper thighs, then rotate the patient’s torso as a unit. The spine is fixed in this position and the rotation occurs in the legs, so there is no anatomic cause for complaints of low back pain. To simulate rotation in the upper body, rotate the shoulders and neck as one unit and note complaints of neck pain. If the neck itself is not moving relative to the thorax and head, there should be no complaints of neck pain.

Axial loading is used to test for low back pain, but cannot be used to assess the neck. In this test, apply downward pressure to the top of the head. Complaints of low back pain are considered a positive Waddell sign. This maneuver can cause neck pain, probably due to irritation of cervical nerve roots.

What is the significance of nonorganic findings?

The presence of nonorganic findings does not mean the pain is imagined or that the person is malingering. Nonorganic findings, especially findings in three or more of the five types, indicate psychosocial factors that need to be considered in the management of patients. Because these factors may potentially slow or complicate the recovery from injury, their early recognition and attention may expedite a more complete and timely recovery. Behavioral approaches to pain management, including motivational techniques, are more likely to provide benefit than medical imaging and interventions, which are relatively contraindicated.

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The opinions expressed in this article are those of the author and do not necessarily represent the position of the Insurance Corporation of British Columbia.

Reference

1. Waddell G, McCulloch JA, Kummel E, et al. Nonorganic physical signs in low-back pain. *Spine* 1980;5:117-125.