

Test Combinations in Patient Examination, Part 3: Testing by Indirect Method

K. Jeffrey Miller, DC, MBA

As discussed previously, most orthopedic and neurological tests are taught as individual entities and are then grouped into regions and/or categories of pathology, rather than being taught in patterns or sequences that consider efficiency in performance or clinical use. In the first two articles in this series, we discussed test sequencing and testing for the same pathology, respectively. The third method of combining tests is testing by indirect method. This method involves obtaining clinical information without actually having to perform a test.

The Subtle Art of Indirect Observation

Many orthopedic and neurological tests are purely observations. The doctor simply watches the patient to obtain information. Another method is to perform a test that simultaneously allows for observations of other characteristics. The key is for the doctor to avoid making it obvious that they are watching the patient. The patient is distracted by the test being performed and the doctor obtains two pieces of clinical information while only performing one test.

A common example of the second concept occurs when recording pulse and respiration rates. A patient cannot (except in very rare situations) control their pulse rate; they can, however, control their respiration rate. Taking the pulse rate is easy, while taking the respiration rate can be more difficult if the patient is aware the doctor is watching them breathe. The patient may become self-conscious and alter their normal pattern and rate of breathing.

With this in mind, students are taught to take the pulse and once finished, continue to hold the wrist as though still taking the pulse, but instead begin counting the patient's breaths. The patient is unaware of the doctor's actions and the recorded breathing pattern and rate are more accurate. This is indirect observation of the patient.

This concept is very important in testing range of motion (ROM). Range of motion is very subjective. This is of particular concern in cases that may eventually involve litigation and financial reward. It does not take a great deal of intelligence for a patient with questionable ethics to realize that the less they move, the better their reward may be. This is one of the reasons ROM testing is now a secondary method of determining spine-related disability.

Orthopedic and neurological testing allow for observation of spinal and extremity ROM through indirect method. Most tests require the patient to move joints through specific ranges of motion. The examiner should look for the result of a particular test, but also note the patient's ROM during the test. The patient will be distracted by the performance of the test and the doctor's questions. It is interesting that in some cases, you can see the differences between ROM results from the indirect method versus standard ROM methods.

Combining Tests to Gather Additional Information

The maximal cervical compression test for radicular pathology requires rotation and extension of the cervical spine. L'Hermitte's test for spinal cord pathology requires flexion of the cervical spine. The shoulder depressor test of brachial plexus pathology requires lateral bending of the cervical spine. Three tests cover all four planes of cervical spine range of motion.

Here's another example: The slump test for neuromeningeal pathology requires flexion of the lumbar spine. The sphinx test for spinal extension requires extension of the lumbar spine. Kemp's test for disc and radicular pathology requires rotation and lateral bending of the lumbar spine. Again, three tests cover all four planes of lumbar range of motion.

A doctor will observe multiple ranges of motion during the course of an exam. This may be all the ROM testing necessary. Doctors can also perform ROM testing individually using instruments if clinical findings indicate instrumentation will be necessary. When more traditional methods are performed, the order of performance should be active movements followed by passive movements and finally resisted movements.

This method of test combining overlaps with the method of testing using tests with the same mechanism of performance that identify different pathologies, as discussed in parts 1 and 2 of this series. Only one mechanism is performed, yet the doctor is obtaining multiple pieces of clinical information. The patient is unaware of the doctor's purpose in both methods.

Remember, as I've stated before, always study tests individually before using them in combination. With knowledge of the tests enhanced, testing combinations will become more evident and examination procedures more practical. The whole point is to maximize clinical efficiency and your ability to gather information in the most reasonable period of time.

[Part 1](#) of this article focused on the value of test sequencing and appeared in the [July 1, 2009](#) issue. Part 2 dealt with tests for the same pathology and ran in the [July 29 issue](#).

NOVEMBER 2009