



Chapter 3

COMPONENTS OF THE BASIC NEUROMUSCULOSKELETAL EXAMINATION TESTS AND MEASURES

After completing the history, the clinician interprets the gathered information to increase the likelihood of performing an efficient and effective physical examination. The history reveals a core data set commonly asked of all patients, but the details are specific to each patient. These details contribute to the working diagnostic classification and direct the search for supporting or negating information during the physical examination. Data from the history guide the focus and comprehensiveness of the initial physical examination, but the clinician continuously modifies according to the patient's response to additional tests and intervention. As discussed in Chapter 2, planning the extent of the physical examination requires the clinician to judge the severity, irritability, nature, stage, and stability of the patient's symptoms or problem.¹

The data obtained during the physical examination specifically tests the diagnostic hypotheses generated during the history until a treatment threshold or initial diagnosis is reached. The physical therapist's challenge is to select, perform, and interpret the necessary diagnostic tests along with key history data for each patient, and then integrate the findings into patient management. The process of selecting and interpreting diagnostic tests involves understanding why tests are performed. Diagnostic tests are performed to differentiate among competing diagnostic classifications, detect structural pathology, rule in or rule out contributing regions of interest, identify disorders not appropriate for physical therapy, and/or assist with selecting specific interventions.

Cook and Hegedus² identified clinical tests with the highest diagnostic utility for spinal conditions. These

authors used a cutoff sensitivity of 0.90 or higher and negative likelihood ratio of <0.20 for screening or ruling out disorders for general musculoskeletal (MS) conditions. For ruling in a disorder or diagnosis, a positive likelihood ratio (LR) of at least 5.0 or higher is desirable.³ Results from the Cook and Hegedus² review revealed only a few tests with adequate diagnostic utility.

- For the cervical spine, the upper limb tension sign (median nerve bias), a posterior-anterior passive accessory test, and Spurling's test are effective screening tests. Only the passive side glide test at C2-3 is considered a useful diagnostic test.
- No studies related to the thoracic spine met the inclusion criteria.
- For the lumbar spine, effective screening tests are the passive straight-leg raise (SLR) for nerve root compression and the extension-rotation test for zygapophyseal pain. Centralization was diagnostic for discogenic symptoms; posterior-anterior intervertebral movements and passive physiological intervertebral movements (PPIVM) for radiographic instability; and firm closed-fist percussion in standing and the supine sign (ie, the inability to lie supine due to severe pain) for osteoporotic compression fractures.

Students and clinicians are encouraged to review the section in Chapter 1 related to determining the accuracy and usefulness of diagnostic tests and interpreting the importance of negative and positive test results (positive and negative likelihood ratios) within the diagnostic process. The physical examination is a progressive process with