Clinical Practice Guideline: **Range of Motion Testing**

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Product: **Specialty**

GUIDELINES

Range of Motion (ROM) Testing is considered medically necessary for medical conditions that impact multiple extremities and trunk musculature when further testing or evaluation beyond what is included in the Evaluation and Management (E/M) service or standard physical therapy, occupational therapy or athletic training evaluation/re-evaluation service is required to develop a plan of care. Examples include but are not limited to:

- Spinal cord injury
- Traumatic brain injury
- Neurologic conditions (e.g., Multiple Sclerosis, stroke)
- Movement disorders (e.g., Parkinson's disease, cerebral palsy)

Testing must be pertinent to the plan of care and the diagnosis and a written report with interpretation of the results is required.

INTRODUCTION

CPT Codes: 95851–95852 (range of motion [ROM] testing) are designated as separate procedures and require the practitioner's interpretation of the results along with a separate, distinct, dated and signed written report (American Medical Association, current year). For the typical patient, the Evaluation and Management (E/M) services for those practitioners that can report E/M services, for Physical Therapy Evaluations/Re-evaluations (codes 97161-97163, 97164) and for Occupational Therapy Evaluations/Re-evaluations (codes 97165-97167, 97168) include all the necessary evaluation tools, including range of motion and manual muscle testing. Baseline measurements may be done with an initial evaluation and are considered incidental and included in the initial E/M service. In addition, assessments, which are separate from evaluations and re-evaluations, are included in the therapy treatment services and procedures and should be coded consistent with the intervention for which the assessment is necessary (Centers for Medicare and Medicaid Services [CMS], 2020). The assessments should be provided by therapists or physician/non-physician practitioner (NPP; i.e., physician assistants, nurse practitioners, clinical nurse specialists) and include objective testing and measurement (e.g., ROM and manual muscle testing) for clinical decision-making regarding the patient's condition and to determine the next step in the treatment plan. On rare occasions, it may be appropriate to perform a thorough range of motion test during the course of treatment that is considered separate from the evaluation/re-evaluation (CMS, 2020). Patients with complicated conditions may warrant specialized tests and measures with standardized reports. For

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example, a patient with an incomplete C5 quadriplegia at six months post-injury may need specialized testing for ROM measurements to address specific deficits and goals.

Testing should be relevant to the plan of care and the diagnosis. Every muscle or joint in the affected extremity or trunk section, as described in the code descriptor, must be tested when coding these procedures. For example:

- Code 95851 is "Range of motion measurements and report; each extremity (excluding hand) or trunk section (spine)". To use this code for extremity ROM testing, every joint of an extremity would need to be tested, with documentation of why such a thorough assessment was warranted. It would not be appropriate to submit code 95851 if only shoulder ROM needed to be tested.

It is not reasonable or necessary for these codes to be performed on a routine basis or to be routinely used for all patients (e.g., monthly or in the place of submitting a standard re-evaluation E/M code. Use of digital devices that provide reports does not justify use of these codes.

CPT Code and Documentation Requirements to Substantiate Medical Necessity

These codes are typically consultative. It is expected that the administration of these tests will generate material that will be formulated into a report. That report should clearly indicate the purpose and rationale for the test, the test performed with results and how the information affects the treatment plan.

CPT® Code	CPT Code Description
95851	Range of motion measurements and report (separate procedure); each extremity (excluding hand) or each trunk section (spine)
95852	Range of motion measurements and report (separate procedure); hand, with or without comparison with normal side

EVIDENCE AND RESEARCH

Cools et al. (2014) sought to establish absolute and relative reliability for several procedures measuring the rotational shoulder ROM and strength into internal (IR) and external (ER) rotation strength. Relative reliability was determined by intraclass correlation coefficients (ICC). Absolute reliability was quantified by standard error of measurement (SEM) and minimal detectable change (MDC). Results demonstrated that reliability was good to excellent for IR and ER ROM and isometric strength measurements, regardless of patient or shoulder position or equipment used. Authors concluded that all procedures examined showed acceptable reliability for clinical use. However, patient position and equipment might influence the results. Kolber and Hanney (2012) investigated the intrarater reliability and concurrent validity of active shoulder mobility measurements

using a digital inclinometer and goniometer. Authors concluded that the results cautiously support the interchangeable use of goniometry and digital inclinometer for measuring shoulder mobility measurements. Although reliable, clinicians should consider the 95% limits of agreement when using these instruments interchangeably as clinically significant differences are likely to be present. Literature on inclinometer reliability for the lower extremity is lacking. Beshara et al. (2021) systematically reviewed and appraised the literature on the reliability of the Kinect, inertial sensors, smartphone applications and digital inclinometers/goniometers to measure shoulder ROM. Thirty-two studies were included. A total of 24 studies scored "adequate" and 2 scored "very good" for the reliability standards. Only one study scored "very good" and just over half of the studies (18/32) scored "adequate" for the measurement error standards. Good intra-rater reliability (ICC > 0.85) and inter-rater reliability (ICC > 0.80) was demonstrated with the Kinect, smartphone applications and digital inclinometers. Overall, the Kinect and ambulatory sensor-based human motion tracking devices demonstrate moderate-good levels of intra- and inter-rater reliability to measure shoulder ROM. Future reliability studies should focus on improving study design with larger sample sizes and recommended time intervals between repeated measurements. Hahn et al. (2021) aimed to determine whether smartphone applications are reliable and valid to measure range of motion (RoM) in lower extremity joints. Studies that reported reliability or validity of smartphone applications for RoM measurements were included. Twenty-five studies were included in the review. Eighteen studies examined knee RoM, whereof two apps were analysed as having good to excellent reliability and validity for knee flexion ("DrGoniometer", "Angle") and one app showed good results for knee extension ("DrGoniometer"). Eight studies analysed ankle RoM. One of these apps showed good intra-rater reliability and excellent validity for dorsiflexion RoM ("iHandy level"), another app showed excellent reliability and moderate validity for plantarflexion RoM ("Coach's Eye"). All other apps concerning lower extremity RoM had either insufficient results, lacked study quality or were no longer available. Authors concluded that some apps are reliable and valid to measure RoM in the knee and ankle joint. No app can be recommended for hip RoM measurement without restrictions.

Elgueta-Cancino et al. (2022) assessed the validity, reliability, and responsiveness of smartphone applications (apps) to measure neck ROM in people with and without neck pain. Eleven studies, with a total of 376 participants were included. Three types of apps were identified: clinometer apps, compass apps, and other apps of 'adequate' to 'doubtful' risk of bias. A meta-analysis revealed 'good' to 'excellent' intra-rater and inter-rater reliability across the three types of apps. The overall validity was rated from 'moderate' to 'very high' across all apps. The level of evidence was rated as 'low' to 'very low'. Authors concluded that Smartphone applications showed sufficient intra-rater reliability, inter-rater reliability, and validity to measure neck ROM in people with and without neck pain. However, the quality of evidence and the confidence in the findings are low. High-quality

research with large sample sizes is needed to further provide evidence to support the measurement properties of smartphone applications for the assessment of neck ROM.

Note: Appropriate range of motion (ROM) testing (CPT codes 95851- 95852), including digital wireless inclinometers or other such electronic device that measures ROM using a handheld device are integral within Evaluation/Re-evaluation codes.

PRACTITIONER SCOPE AND TRAINING

Practitioners should practice only in the areas in which they are competent based on their education training and experience. Levels of education, experience, and proficiency may vary among individual practitioners. It is ethically and legally incumbent on a practitioner to determine where they have the knowledge and skills necessary to perform such services and whether the services are within their scope of practice.

It is best practice for the practitioner to appropriately render services to a patient only if they are trained to competency, equally skilled, and adequately competent to deliver a service compared to others trained to perform the same procedure. If the service would be most competently delivered by another health care practitioner who has more skill and training, it would be best practice to refer the patient to the more expert practitioner.

Best practice can be defined as a clinical, scientific, or professional technique, method, or process that is typically evidence-based and consensus driven and is recognized by a majority of professionals in a particular field as more effective at delivering a particular outcome than any other practice (Joint Commission International Accreditation Standards for Hospitals, 2020).

Depending on the practitioner's scope of practice, training, and experience, a patient's condition and/or symptoms during examination or the course of treatment may indicate the need for referral to another practitioner or even emergency care. In such cases it is essential for the practitioner to refer the patient for appropriate co-management (e.g., to their primary care physician) or if immediate emergency care is warranted, to contact 911 as appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* clinical practice guideline for information.

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