Introduction

The Rehabilitation—Functional Status Markers (R-FSM) is a unique tool that allows the user to graph and depict a client’s physical capacities relative to specific job demands. The specific job demands may be gathered through a formal Physical Demands Analysis (PDA), or through less formal means such as client and/or employer survey. The client’s physical capacities may be measured utilizing any accepted protocol at the discretion of the user. As an important part of the Rehabilitation Outcome Measurement System, the ROMS Progress & Outcome Summary Graphs identifies the percentage of occupational physical demands actually met by the client. Another summary graph depicts the percentage of overall total scores of all functional domains in relation to the overall total scores of all physical demands. These graphs can be viewed on the ROMS page within www.rrees.com.

This Manual provides physical functional test protocols designed to allow the user to perform general or specific mini-functional assessments. A “specific” assessment is indicated when a specific occupation is under consideration and its corresponding demands are known and represented by “physical demands analysis” (PDA) inputs. Using the protocol within ROMS, the R-FSM allows for the integration and graphical representation of the PDA and measured (estimated) client functional abilities. This integrated approach is the single greatest advantage of, and the fundamental principal upon which the R-FSM is based. A “general” assessment is indicated when there is no particular occupation in mind, and the results can similarly be plotted on the ROMS graphs, although of course with no corresponding PDA inputs.

If a previously established Functional Abilities Evaluation protocol is being used (i.e. Arcon, Focus, etc.) then the client’s functional abilities determined through those testing protocols can be transferred into the R-FSM Form to produce the same easy to follow graph in ROMS. The R-FSM Form is available within the RREES E-STORE for Professionals within www.rrees.com.
A Cautionary Note Regarding Single Point Measurement of Physical Demands Relative to Job Requirements

It is important to recognize that while the R-FSM collects and reports data based upon commonly accepted practices in the most commonly measured physical functional domains, RREES provides no assurance that the R-FSM will cover all or any essential physical job demands in any given situation. Further, the R-FSM certainly is not meant to consider nor include any essential or important job demands that are cognitive, interpersonal, emotional or otherwise, in nature i.e. beyond the scope of physical job demands. Where applicable for reporting purposes, accompanying documentation should identify the individual’s essential job demands and the measurement system utilized for data collection. Unless otherwise specified, and unless the R-FSM data has been collected over a series of consecutive days (each approximating a competitive work day), then a participant who meets all of the R-FSM physical demands numerically, cannot necessarily be considered to meet his/her essential job demands even from the strictly physical perspective. A competitive work day must consider such issues as the cognitive and psychosocial occupational demands as well as such factors as stamina, endurance, and continuous concentration, persistence and competitive work pace. These cautions apply to this graph as well as the summary graphs derived from it.
Estimating Versus Measuring Client Physical Functional Status
Although estimating as opposed to measuring a participant’s physical functional status as an R-FSM input is possible, it is not recommended. Doing so is likely to result in unreliable and invalid data being placed into the R-FSM forms and corresponding ROMS graphs.

Treatment Integrated Measurement of Client Physical Functional Status
Although sound reliability and validity of a treatment-integrated approach has not yet been clearly established in the literature, it is likely to be a more accurate one than estimation alone and may favourably rival the static assessment approach. This approach involves the collection of the participant’s PDA related physical capacities during the natural course of the treatment/intervention process. At this point in time, RREES in not in a position to either recommend or refute such a protocol, but shall be conducting research into the feasibility of this methodology. Those users who are interested in participating in a pilot study of this approach should contact RREES by e-mail (rrees@rrees.com). In the interim, the actual measurement protocols as indicated below remain the recommended methodology.

Physical Demands Analysis (PDA)
It is recommended that occupational physical demands be determined through qualified professional observation and physical demands analysis (PDA) of the target occupation. While this information can potentially be obtained through participant and/or employer survey of the demands, this approach is more prone to error than through formal PDA. Furthermore, conflicts between participant and employer reports of the physical demands and/or of the essential job tasks, are common for a variety of reasons and are generally poorly resolved without a formal PDA.
Guidelines and Protocols for R-FSM Physical Functional Demands Measurement

The remainder of this Manual is dedicated towards the description of guidelines and protocols for R-FSM functional demands measurement. Whenever possible a full length Functional Abilities Evaluation may be performed to better validate the client’s current functional tolerances. In this guideline, general testing procedures are listed, as are the published references for each test. Where there are no references listed the test protocols were developed based upon commonly accepted practices in an effort to measure the client’s related current functional abilities. When testing a client for a job match it is imperative to adjust the test protocols to attempt to simulate the client’s essential physical job demands, which is obviously left up to the assessor to determine. The results of the following test protocols can be transferred into the R-FSM Form, which in turn can be input into the ROMS system.

Positional Tolerances

Sitting
Sitting is defined as remaining in a seated position (Revised Handbook for Analyzing Jobs (RHAJ), 1991).

If time permits, the measured tolerance should be the client’s observed continuous sitting tolerance. If time does not permit state the client’s reported sitting tolerance making sure to note that the value listed is reported. Ideally, the client would be in the sitting posture listed as their essential job demand (i.e., at a computer).

Standing
Standing is defined as remaining on one’s feet in an upright position at a workstation without moving about. (RHAJ, 1991).

If time permits, the measured tolerance should be the client’s observed continuous standing tolerance. Be sure to differentiate between dynamic and static standing. Dynamic standing is often more practical. If time does not permit state the client’s reported standing tolerance making sure to note that the value listed is reported. Again, the client would be in the standing posture listed as their essential job demand. (i.e. a cashier versus an assembly line worker).

Walking
Walking is defined as moving about on foot. (RHAJ, 1991).

If time permits, the measured tolerance should be the client’s observed continuous walking tolerance. If time does not permit state the client’s reported walking tolerance making sure to note that the value listed is reported. Note if the client requires any assistive devices while walking (i.e., a cane).
Grip and Pinch Strength

Hand and Pinch Grip Strength
Typically performed following a standardized protocol. If using an established protocol follow those instructions; if not standardized instructions and outcome results can be found in the following references. For general testing purposes, when listing the client’s handgrip strength the position of the hand dynamometer should be recorded (typically position two or three).

**Hand and Pinch Grip References**


**Handling and Fine Motor References**

Instructions and Normative Data for Model 32020 Purdue Pegboard. Lafayette Instrument Company, P.O. Box 5729 Lafayette IN.


Range of Motion Testing

Stooping
Stooping is defined as bending the body downward and forward by bending the spine at the waist (RHAJ, 1991).
Repetitive and sustained stooping should be tested. The exact posture of the stoop and the continuous time that is tested should be based on the client’s essential job demands. To test for general stooping abilities, ask the client to perform at least 10 repetitions. For sustained stooping the client’s continuous stooping tolerance should be recorded for a minimum of 5 minutes.

Crouching
Crouching is defined as bending the body downward and forward by bending the legs and spine (RHAJ, 1991).

Repetitive and sustained crouching should be tested. The exact posture of the crouch and the continuous time that is tested should be based on the client’s essential job demands. To test for general crouching abilities, ask the client to perform at least 10 repetitions. For sustained crouching the client’s continuous crouching tolerance should be recorded for a minimum of 5 minutes.

Forward Reaching
Forward reaching is defined as extending the hands and arms in front of the body (RHAJ, 1991).

Repetitive and sustained forward reaching should be tested. The exact posture of the reach and the continuous time that is tested should be based on the client’s essential job demands. To test for general forward reaching abilities, ask the client to perform at least 10 repetitions. For sustained forward reaching the client’s continuous reaching tolerance should be recorded for a minimum of 5 minutes.

Overhead Reaching
Overhead reaching is defined as extending the hands and arms above the head.

Repetitive and sustained overhead reaching should be tested. The exact posture of the reach and the continuous time that is tested should be based on the client’s essential job demands. To test for general overhead reaching abilities, ask the client to perform at least 10 repetitions. For sustained overhead reaching the client’s continuous overhead reaching tolerance should be recorded for a minimum of 5 minutes.

Kneeling
Bending legs at knees to come to rest on knee or knees.

Be sure to record if the client is performing one or two point kneeling. The client’s essential job demands should dictate which one will be tested. For kneeling, the client’s sustained kneeling tolerance should be tested for a minimum of 5 minutes.

Range of Motion References


Lifting
To raise or lower an object from one level to another including upward pull (RHAJ, 1991).

If using a standard protocol (i.e. PILE), state the shelves height given within the protocol. If not, state the lifting levels as waist to shoulder level, floor to waist level, floor to shoulder level. Typically bilateral lifting on an occasional basis is recorded, unless the client’s essential job demands require unilateral lifting or a frequency other than occasional. Static lifting procedures are also referenced; however dynamic strength testing is typically preferred when testing essential job demands.

**Dynamic Lifting References**


**Static Lifting References**


**Carrying**
Transporting an object, usually holding it in the hands or arms, or on the shoulder. (RHAJ, 1991).

Typically bilateral carrying on an occasional basis is recorded, unless the client’s essential job demands require unilateral carrying or a frequency other than occasional. The distance the client carries the load during testing will be determined by their essential job demand, however if a specified distance is not listed, we would suggest testing the client’s carrying ability over a distance of at least 80 feet.

**Pushing/Pulling**
Pushing is defined as exerting force upon an object so that the object moves away from the force (RHAJ, 1991).

Pulling is defined as exerting force upon an object so that the object moves toward the force (RHAJ, 1991).

Be sure to note if the test is a dynamic or static pushing/pulling test, depending on the client’s essential job demands. Typically dynamic pushing or pulling is more relevant. If testing dynamic pushing/pulling you must include the horizontal force required to move the load. The distance the client pushes/pulls the load during testing will be determined by their essential job demands, however if a specified distance is not listed, we would suggest testing the client’s pushing/pulling ability over a distance of at least 120 feet.

**Climbing**
Climbing is defined as ascending or descending ladders, stairs, scaffolding, ramps, poles, and the like using feet and legs and/or hands and arms. (RHAJ, 1991).

Reporting of the test must state what the client is climbing (i.e. stairs, ladder, etc.). If testing stairs or a ladder, record the number of stairs or rungs on the ladder that the client was able to ascend/descend.

**Submaximal VO2 Testing**
Submaximal VO2 testing can be useful to assist in determining the client’s work endurance over an eight-hour day. By determining the client’s submaximal VO2, the value can be converted into METS, which can be directly correlated to a specific strength category (i.e. sedentary, light, etc.) listed in the Dictionary of Occupational Titles. This measurement is however not an official input within the R-FSM Form nor ROMS graphs.
Submaximal VO2 Testing References
