

Why should I use the MTAP?

The purpose of Multidimensional Task Ability Profile (MTAP) is to collect self-report data that can be used to measure the physical functional ability of adults in response to work demands and activities of daily living. The MTAP is a patient reported outcome measure (PRO) that was developed out of the need for improving the measurement of function at a lower cost and to meet the demand required by today's healthcare systems.

Significant emphasis has been placed in evidence-based medicine for interventions implemented into treatment guidelines and the development of effective use of PROs is an important aspect of clinical care. PROs are an important component of these quality-based initiatives utilized by government agencies such as the NIH and CMS/Medicare, along with private payers and health care providers. Precise and practical outcome measures improve healthcare delivery by helping to guide and support treatment, as well as documenting clinical outcomes. At present, the use of PRO's has been mandated by Medicare when providing rehabilitation services. Programs/requirements similar to Blue Shield's "Pay for Performance" are emerging yearly advocate the routine use of PROs as part of an EBM treatment plan.

Is the MTAP consistent with EBM guidelines?

The MTAP meets the new recommendations for documentation of patient reported functional outcome measures (Medicare, Official Disability Guidelines (ODG), American College of Occupational and Environmental Medicine (ACOEM), and the American Medical Association (AMA) Guides to the Evaluation of Permanent Impairment, 5th and 6th editions).

Does the MTAP have established validity and reliability testing?

Reliability and validity was established in J Occ Med, Mayer, et al., 2005. Subsequent studies followed with item response theory calibration (IRT) and Rasch analysis, J Occ Med, Matheson, et al., 2006. Validated to actual physical performance (FCE's), The Spine Journal, Vert Mooney, et al., 2010. Additional reliability, validation and cross-cultural adaptation to Spanish, Verna, et al., 2012. Several additional studies have been published with comparison to various outcome measures and FCEs, which are readily available on PUB Med.

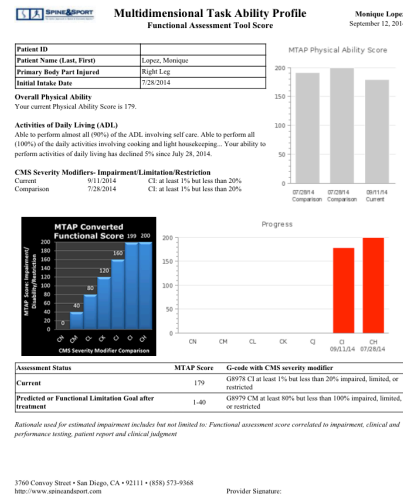
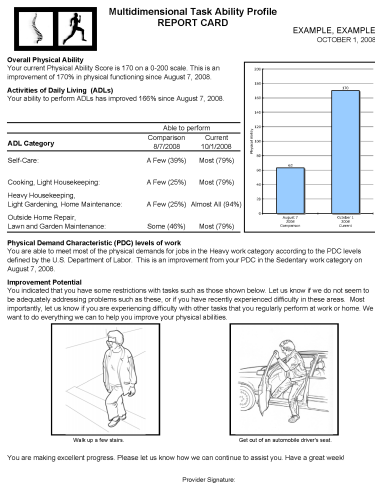
How is the MTAP different from other PRO instruments?

One of the most significant innovations of the MTAP is its simplicity of design in which each of the items are illustrated by short captions combined with pictures of common tasks including ADLs and work activities. The combination of a caption and picture allows for more rapid cognitive processing at a lower level of ambiguity than text captions alone. This decreases evaluatee response effort and error, standardizes items across patients, and allows for more information to be gathered in a shorter period of time. Moreover, incorporating text captions with pictures helps accommodate patients with low literacy levels and assists with cross-cultural adaptation. Accordingly, this combination is an extremely important advantage for PROs. To our knowledge, no other PRO for physical function incorporates this combination other than the precursors to the MTAP.

Clinical FAQs

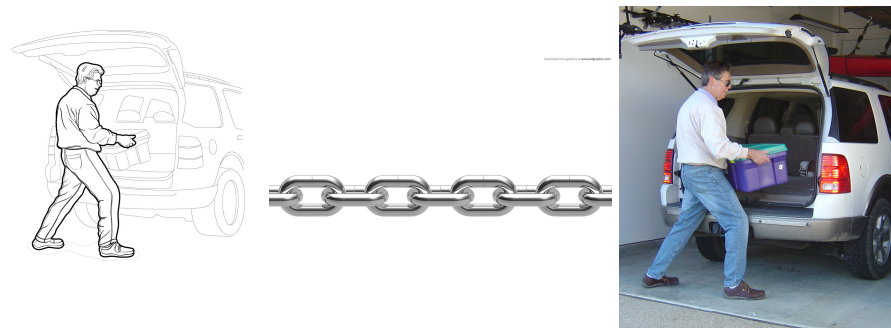
The Multidimensional Task Ability Profile

Practical features of the MTAP include automatic scoring and reporting mechanisms, such as the “Patient Report Card” prepared in the patient’s native language (English or Spanish), which encourages functional improvement dialogue between the patient and healthcare provider.



The primary benefits of using the MTAP over other available patient report instruments is that the evaluatee’s responses can be quantified by comparison to external performance measures simultaneous with mathematical interpretation of the internal consistency of his or her item responses, while providing methods to identify responses that require clinical confirmation, and bench-marking these results against a widely-used standard for the physical demands of work, the U.S. Department of Labor’s Physical Demand Characteristics of Work system (i.e., PDC Level).

Pictures allow for calibration and MTAP items are *linked* to demonstrable physical ability



PDC Level: Very Heavy

PDC Level: Very Heavy

The MTAP. Measuring Ability. Measuring Outcomes.



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The Multidimensional Task Ability Profile

MTAP scores are linked to all jobs that are classified according to PDC level. Additional external linkages are linked to MTAP responses to levels of activities of daily living (ADL), instrumental activities of daily living (IADL) and to the EPIC Lift Capacity (ELC) test.

The MTAP is the most recent iteration of innovative self-report measures. Although many musculoskeletal self-report measures are in use today such as the SF-36, Oswestry, Pain Disability Questionnaire (PDQ), Rolland Morris, the DASH and Quick DASH, and many more, these self-report measures have been lacking in the following areas:

- Current PROs have an absence of a focus on work; no useful information is obtained with respect to an individual's ability to work.
- Current PROs assess disability as opposed to ability
- Current PROs rely only on text items
- Current PROs that do not use IRT and Rasch analysis to calibrate items lack reliability and validity
- Current items may not promote patient centered care
- Current items may not be validated into the Spanish language

How does the MTAP compare to external standards of measurement?

The ability of the MTAP to collect information about physical performance ability and compare it to an external standard is important to recognize. Rather than simply collect information about physical performance ability in general, the linking of items to external standards provides the possibility of a crosswalk from MTAP scores to ratings on external scales that are used for other important purposes.

The best example of an external scale that was used in the development and selection of MTAP items is the "Physical Demand Characteristics of Work" categorization of the strength demands of jobs, which was developed by the United States Department of Labor. This scale is used in the job analysis systems that the United States Department of Labor has published and used to collect data for the Dictionary of Occupational Titles (DOT). Although the DOT has itself been abandoned by the United States Department of Labor in favor of the O*NET system, the PDC system continues to be used in rehabilitation around the world and has been adopted by the Economic Resources Institute for the eDOT project, which continues to collect job analysis data in a rapid and dynamic electronic model using the Internet. Given its early presence in the job analysis and occupational rehabilitation professions and its widespread adoption, the PDC categorization system is an important external reference for the MTAP. It allows MTAP scores to be linked to all jobs that are classified according to PDC level.

Clinical FAQs

The Multidimensional Task Ability Profile

Physical Demand Characteristics (PDC) of Work

Physical Demand Level	Occasional 0-33% of the workday	Frequent 34%-66% of the workday	Constant 67%-100% of the workday	Typical Energy Required
Sedentary	10 lbs.	Negligible	Negligible	1.5 - 2.1 METS
Light	20 lbs.	10 lbs.	Negligible	2.2 - 3.5 METS
Medium	20 to 50 lbs.	10 to 25 lbs.	10 lbs.	3.6 - 6.3 METS
Heavy	50 to 100 lbs.	25 to 50 lbs.	10 to 20 lbs.	6.4 - 7.5 METS
Very Heavy	Over 100 lbs.	Over 50 lbs.	Over 20 lbs.	Over 7.5 METS

Additional external linkages are available, including linking MTAP responses to levels of activities of daily living (ADL), instrumental activities of daily living (IADL), and to the EPIC Lift Capacity (ELC) test.

Why use item response theory (IRT) and Rasch Analysis?

Although item calibration and rating scale calibration is widespread in the field of Education, the need for such calibration has only recently been appreciated in Healthcare. Educators have recognized the problems created by the use measurements from non-calibrated instruments for decades, resulting in the development of computer-intensive analytic methods to empirically calibrate items and rating scales with item response theory (IRT) models. The IRT approach to measurement is based on the assumption that the relationship between each evaluatee and each item is necessary to understand, requiring statistical methods that investigate the relationship. One pioneer in this approach was Georg Rasch (1901-1980), a Danish mathematician who developed methods to calibrate items on reading tests, with subsequent application of these methods to other constructs.

The item calibration and Rasch analysis includes the ability to predict how a subject or evaluatee would likely answer or respond to certain items to a high degree of probability. The Rasch item response theory provides an INFIT score as an indicator of responses different from the expected response pattern on items near the ability level of the evaluatee. This INFIT score provides a method to examine reliability of the match of the evaluatee to the items. The OUTFIT score is sensitive to items that are outliers, either very easy or very difficult, compared to the evaluatee's Ability score. This OUTFIT score reflects unusual responses that are at the extremes of the evaluatee's Ability score.

In recent years, the methods of Rasch and other item response theorists have been applied in Healthcare to improve the psychometric reliability and validity of measures and are being used in the National Institutes of Health Patient Reported Outcomes Measurement Information System (PROMIS) project. These procedures allow the proportional calibration of ordinal self-report items on an interval scale. This improves the reliability and validity of the instrument and allows higher levels of sensitivity and specificity.

Is the MTAP validated for clients with secondary gain?

The MTAP was validated on a diverse patient population, including thousands of patients from the workers' compensation and personal injury system, in which secondary gain is an ever-present issue. The INFIT and OUTFIT scores have been found to be sensitive to outlier responses that allow the clinician to address complex polytrauma cases. In the absence of polytrauma, INFIT and OUTFIT scores that are in excess of 1.50 indicate unacceptable inconsistency and require clinical confirmation. In addition to the manifestation of adverse psychosocial behaviors, some possible reasons for inconsistent INFIT and OUTFIT scores may include but not limited to: poor language proficiency, the misunderstanding of items or questions due to poor literacy, or cognition difficulties. Clinical correlation and additional psychometric testing is advised with high or unreliable INFIT/OUTFIT scores.

How does the MTAP compare with “Objective” Functional Capacity Testing (FCE)?

The MTAP uses sophisticated statistical analyses including item response theory (IRT) and Rasch analysis to calibrate MTAP items with actual objective testing (FCE) in order to maximize the precision of assessing an individual's overall function. This modern approach to test analysis provides a more robust item calibration and proportional evaluation of total scores. The MTAP was found to be highly correlated to the EPIC Lift Capacity (ELC) test. The MTAP is highly reliable ($r = 0.98$, $p < 0.05$) and highly correlated with actual physical function as assessed during objective FCE lifting tasks ($r = 0.89$, $p < 0.05$).

Should the MTAP be utilized in combination with FCE testing?

The robust predictive ability of the MTAP allows it to be used in conjunction or in place of traditional objective performance measures that may be more time-consuming, impractical and expensive. Many FCEs possess performance tests that are routinely provided but do not help determine the disability reporting or return to work (RTW) conclusions. As evaluators become more sophisticated about the selection of standardized performance tests in functional capacity evaluation, rational justification for not performing one or another test is necessary. A self-report score indicating adequate ability in one or another construct provides justification to not test that construct unless there is some other reason to test. This is becoming standard practice in forensic rehabilitation evaluations that must focus on only issues that are pertinent. Given the demonstrated linkages between the MTAP and the EPIC Lift Capacity test, it is now possible to check consistency of effort across platforms, using different measurement systems. In this way, unexpected results become pointers to further investigation. Conversely, when the results of one test confirm the results of the other test, the results of both can be accepted with increased confidence.

For example, the real-time use of the MTAP by the patient in parallel with a functional capacity evaluation will identify mismatches. The FCE professional's resolution of the mismatch should sharpen the disability determination and improve intervention and patient compliance.

How can the MTAP assist with return to work?

An important focus of the MTAP is on the functional capacity of the evaluatee in terms of the demands of competitive employment. This focus allows important comparisons to job demands data. The comparison between the MTAP and the United States Department of Labor Physical Demands Characteristic system allows a crosswalk of the MTAP results and interpretation in terms of the evaluatee's ability to work. The Ability Scores of applicants, employees, and workers returning from medical leave can be compared to the difficulty of the job tasks, allowing the decision-making of employers, health

care professionals, and insurance claims professionals to have a strong and defensible objective basis. Most importantly, the MTAP patient report card is a useful tool to help promote discussions between patients and providers regarding functional improvement and stimulate return to work.

How can the MTAP assist with determination with ADL function?

Another interpretation of MTAP results compares the person's scores to activities of daily living. This is useful for insurance claims professionals and economists to estimate the replacement value of lost functionality that has to do with home care and maintenance. This is also useful for insurance case managers to determine the need for long-term care facility admission compared with the extent of home health care that would be necessary to maintain the person in an independent living setting

How is the MTAP utilized with Impairment Rating?

The MTAP makes for a stronger impairment rating by quantifying the impairments with what ADLs are affected (Validates that the impairment correlates with the ADLs loss or functional loss).

The NIH, Medicare, and AMA Guidelines (5th and 6th Editions) currently recommend and describe the importance of utilizing PROs to assess physical function in combination with other objective findings in order to establish impairment, disability, and function. However, the AMA acknowledges there are no PROs that encompass full-body physical function for high functioning populations that have been found to be reliable, valid, and practical. Most PROs and functional assessments are designed for low-level institutionalized patients only. Due to the shortcomings of existing PROs, we developed the MTAP.

Can the MTAP be used for Medicare patients?

Insurance Payers are demanding that providers document functional improvement and outcomes. In fact, starting July 2013 Medicare claims for therapy services must include a functional status measure or they will be rejected (Outpatient Therapy of the Medicare Physician Fee Schedule Final Rule-CMS-1590FC). Historically, the approach has been paper and pen outcomes questionnaires. These questionnaires such as the SF-36 and Oswestry may be impractical for outpatient providers:

- 1) No printable reports; not billable
- 2) The need to manually calculate which is error prone
- 3) Does not support Medicare severity modifiers
- 4) Difficult and time consuming to score assessments; slows down practice flow
- 5) Not available or adapted to the Spanish language
- 6) None provide a simple report card given to the patient to stimulate dialogue between patient and care provider

In contrast the MTAP delivers a simple easy to use system that helps the provider meet today's practice demands by streamlining practice flow and documentation, improving accurate patient assessment and care, ultimately leading to increased provider reimbursement. The MTAP also has a specialized report to comply with Medicare Functional Limitation Reporting with G-code severity modifier selection. The MTAP is currently validated for English and Spanish speaking populations.

Is the MTAP billable?

Based on medical necessity, the MTAP may be a billable and reimbursable service when incorporating into patient education, treatment planning and documentation. Reimbursement for the MTAP may also be subject to policy benefits/limitations, provider specialty or scope of practice.

How do MTAP funds support the Vert Mooney Foundation?

The Vert Mooney Foundation membership donation is primarily used to support continued research and development of the MTAP, related research and costs for scientific publications and presentations.

For additional information, please contact us at info@mtapsystems.com or contact

www.mtapsystems.com