Outcome Measures

Most studies are measured using an outcome measure, therefore, it is important for you to understand what the outcome measure is assessing, and more importantly, in order to determine success of your patient, the same outcome measure should be used. Below is an abbreviated list of current valid, reliable outcome measures that are used in many studies.

How to implement use in your setting: It is important to use outcome measures before treatment (ideally at the initial exam), at re-eval and discharge, this will allow you to see the largest change, which hopefully will be due to your evidence based treatment/intervention. It is important to know the tests Minimally Clinical Important Difference (MCID), this is the amount (points or percentage) that a test must change (between initial and final test taking) for it to make a difference clinically. Therefore, in an example with the DASH, the MCID is 15 points. So if on initial exam the patient scored 40% and by the end of the intervention, at discharge the patient had a DASH score of 30%, while there was a change, it is not deemed clinically important. Keep this is mind when writing goals. When you use outcome measures for goals they should reach at least 1 MCID

- **DASH**-www.DASH.iwh.on.caThe DASH is the Disabilities of the Arm, Shoulder, and Hand, "this outcome measure is a 30-item, self-report questionnaire designed to measure physical function and symptoms in people with any of several musculoskeletal disorders of the upper limb. The tool gives clinicians and researchers the advantage of having a single, reliable instrument that can be used to assess any or all joints in the upper extremity. A shorter version called the *Quick*DASH is also available. Both tools are valid, reliable and responsive and can be used for clinical and/or research purposes. However, because the full DASH Outcome Measure provides greater precision, it may be the best choice for clinicians who wish to monitor arm pain and function in individual patients" (accessed Nov 2009). **You can download a PDF of the DASH and the *Quick*DASH on the website** (Must have Adobe Acrobat to download)**.** There is also information about scoring and translation of the test into different languages on their website. **The Statistics**- scored out of 100%, with 0-20% being normal, 20-40% being mild disability, 40-60% moderate disability, 60-80% severe disability, the Minimal Clinically Important Difference (MCID) has been reported as 15 points by the Institute for Work & Health and the American Academy of Orthopedic Surgeons (AAOS).

The DASH and the *Quick*DASH were jointly developed by the Institute for Work & Health and the American Academy of Orthopedic Surgeons (AAOS).

- **Oswestry Disability Index-** Is a condition–specific outcome measure used in the management of spinal disorders. There are currently 4 English versions and 9 translations. This version differs from some of the other version because the section that discusses the patient's sex life in terms of their back disability has been eliminated. There are 10 sections, 8 or more sections must be filled out in order to make this a valid measurement. **The Statistics**-scored out of 50 points, it is multiplied by 2 to get 100%, therefore, **IMPORTANT TO NOTE IF IT IS A RAW SCORE OR THE PERCENTAGE SCORE**. The scores are broken down to: 0-20%=mild, 21-40%=moderate (the average outpatient score is 40%), 41-60%=severe, 61-80%=patient is crippled or bed bound. If a patient scores >60% this raises a red flag that there is extensive involvement and a Fear Avoidance Belief Questionnaire (FABQ) should be administered. The FABQ, which can be found below, is a test which helps measure the patient's influence that fear has over movement. An MCID for the Oswestry has been reported as 6%.

Fairbank, J.C.T., Pynsent, P.B. (2000). The Oswestry Disability Index. *Spine*, 25(22) 294-2953.

Fritz, J.M., Irrgang, J.J. (2001). A comparison of a modified Oswestry Low Back Pain Disability Questionnaire and the Quebec Back Pain Disability Scale. *Physical Therapy*, 81(2) 776-788.

- **The Fear Avoidance Belief Questionnaire**-FABQ is used by Physical Therapists as well as Medical Doctors and Doctors of Osteopathy to determine if patient's have a fear that moving will increase their low back pain. The FABQ has two subsets- Work (FABQ W) and Physical Activity (FABQ PA), these subscores are used often to predict how a patient may progress. The FABQ is useful in determining if a patient will react favorably to a spinal manipulation. There is a clinical prediction rule (Flynn et al, 2005) that states that if a patient has 4 out of 5 characteristics and a spinal manipulation is done, we can be 95% sure that we can decreases this patient's disability by >50%, as measured by the Oswestry Disability Index. One of the characteristics is if a patient scores <19 on the FABQ Work subset, (in addition to hip internal rotation >35 degrees in at least 1 hip, symptoms <16 days, no symptoms distal to the knee, and (+) Spring/PA test). This clinical prediction rule has a very large effect and has had very powerful statistics to back up the evidence. To access this test click here→FABQ.

- **The Berg Balance Test**-BBS is used to determine a patient's fall risk. The BBS measures two aspects of balance, the ability to maintain upright in sitting and standing, as well as the ability to maintain balance with voluntary adjustments. The BBES has been used in community dwelling elders, patient's with brain injuries, Parkinson's disease and stroke. Used most commonly in acute rehab, skilled nursing facility and community level outpatient. Scored 0-56, those with a score <45 are deemed a fall risk (Shumway-Cook et al, 1997). **The Statistics**- The Minimal Clinical Important Difference (MCID) has been reported as 6-8 points. It is also important to note that if a patient's initial Berg score is 33 and they improve to 41 by discharge, they are still considered a fall risk. To download a copy click here→Berg.

- **Functional Reach**- The FR is a very fast tests to determine the limits of anterior stability/balance. Developed by Pam Duncan and colleagues to identify community dwelling elders risk of falls. It has been tested in many populations, including: community dwelling elders, patient's with Multiple Sclerosis, stroke, Parkinson's disease, TBI, Diabetes and transmetatarsal amputees. Patients are asked to put their arms at shoudler height, make a fist and reach as far as they can withouth taking a step or touching the wall, measure from the head of the metacarpal of the third finger(keep tape measure taped to wall to increase efficiency and use of the FR). Five trials are completed, 2 practice, 3 test trials, average the 3 test trials together to get final score. Norms for adults 20-40 yrs is 16.73" (42.5 cm), 41-69 yrs is 14.98" (38 cm), and 70-87 yrs is 13.16" (33.4 cm). Patients whose FR is < 6" (15.24 cm) are at risk of fallling (as determined by community dwelling elderly male veterans) (Duncan et al, 1990). For Parkinson's patient's a cutoff of 12.5" (31.75 cm) delinated fallers from non-fallers (Dibble et al 2006).

PEDIACTRICS

- TIMP-The Test of Infant Motor Performance (TIMP) assesses preterm infants (32 weeks gestational age) until the corrected age of 4 months. The TIMP is a norm-referenced test and can be used to discriminate, evaluate and predict delays. Tests only gross motor, and consists of 2 parts. Part 1 is an observational aspect where spontaneous movements are documented and part 2 is elicited items to assess postural control and function when the infant is placed in tasks that he/she may face daily, i.e. bathing, dressing or changing a diaper. **The Statistics-** The TIMP has been found to have sensitivity of 92% and specificity of 76%. There is no downloadable version available, for more information and to purchase the TIMP you can visit the creators of the TIMP website: Infant Motor Performace Scales

- Peabody-The Peabody Developmental Motor Scale (PDMS) has two versions, both the PDMS and PDMS-2 are norm-referenced groups. Both editions of the PDMS's primary focus is on children 0-5 years old, and the tool is used in a discriminative, predictive and evaluative form. It is widely used to determine one's eligibility into Early Intervention. Both editions are used to test both gross motor and fine motor, the fine motor section is sometimes preformed by an occupational therapist depending on the setting. There is no downloadable version available, for more information and to purchase the PDMS-2 you can visit the creators of the PDMS-2 website: Western Psychology Services