**List of Terms with Definitions:**

* **MCID (Minimum clinically important difference)**: The smallest change in patient’s self-reported scores that represent a meaningful therapeutic efficacy.
* **PRO (Patient-reported outcome questionnaires)**: Used in both clinical and research practices to evaluate patient improvement after a specific therapeutic intervention.
* **VAS (Visual analog scale)**: VAS relies on a self-assessment numerical scale that ranges from 0 to 10 for pain. Zero means no pain, while 10 means intolerable pain.
* **NDI (Neck disability index):** It is a 10-item patient survey that quantifies disability in patients suffering from neck pain. It has a maximum score of 50, and every item is scored from 0-5. The lower the score, the lower the patient debility.
* **Patient overall status:** PRO measure based on a 7-point Likert scale, in which the patient evaluates its own improvement following therapeutic intervention. It ranges from 1 to 7, where 1 means “very much improved”, 2-“much improved”, 3-“minimally improved”, 4-“no change”, 5-“minimally worse”, 6-“much worse” and 7-“very much worse”.
* **ODI (Oswestry disability index):** It is a 10-item patient survey that quantifies disability in patients suffering from low back pain. The lower the score, the lower the patient debility.
* **PCS:** Physical component summary of the Short Form of the Medical Outcomes Study (SF-36).
* **MCS:** Mental component summary of the Short Form of the Medical Outcomes Study (SF-36).
* **SF-36 (Short form of the medical outcomes study (SF-36)):** The SF-36 primarily evaluates patient’s social and physical function, general health, vitality and body pain.
* **HTI (Health transition item):** It an item derived from the health transition item of the SF-36, which refers to how the patient feels at the time of the questionnaire compared to one year ago.
* **Surgeon Ratings:** It is based on a 7-point Likert scale in which the attending surgeon evaluates patient improvement following surgery. It ranges from 1 to 7, where 1 means “very much improved”, 2-“much improved”, 3-“minimally improved”, 4-“no change”, 5-“minimally worse”, 6-“much worse” and 7-“very much worse”.
* **Anchor-based methods:** Compare a PRO value (NDI, PCS, MCS, VAS) with an independent measure (such as patient improvement post-surgery or patient satisfaction when compared to one year before surgery). However, independent of the choice of the external criterion, there should be a meaningful established relationship between PRO and an independent measure.
* **Distribution-based methods:** Compare the change in PRO scores with selected variability measures. Examples include MDC and SEM.
* **MDC (Minimum detectable change):** It is the smallest value that is above the measurement error within a 95% confidence interval (CI).
* **SEM (Standard error of measurement):** Estimates standard error in a repeated set of scores. It has a direct correlation with the reliability of the test. A change in score above the preoperative SEM values reflects a true change.
* **CI (Confidence interval):** It is a type of interval estimate of a population parameter. It is used to indicate the reliability of an estimate (above the 95% CI).
* **ROC curve (Receiver operating characteristic curve):** It is a sensitivity- and specificity-based approach for calculation of MCID. When applied to PROs and used in conjunction with MCID, a sensitivity of 1 means that all true positive values have been identified (patient reports an improvement and MCID is above the therapeutic threshold). The inverse applies for a specificity value of 1. The ROC curve ideally identifies the threshold for a PRO score while keeping the greatest sensitivity and specificity.
* **AUC (Area under the ROC curve):** The area under the ROC curve represents the probability that a PRO score will discriminate between improved and unimproved patients. The probability values range between 0.5 (probability of discrimination is the same as a coin toss) and 1 (accurately discriminates all patients).