Diagnostic Criteria for Temporomandibular Disorders (DC/TMD)

Scoring Manual for Self-Report Instruments

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Introduction

Selection of constructs and instruments

As described in Schiffman et al, 2014 and in Ohrbach et al, 2010, many constructs and instruments have been considered for the Axis II revision of the RDC/TMD now present in the DC/TMD. These two references describe the rationale for the current selections. In a research setting, we typically measure 10-20 psychological and behavioral constructs relevant to pain; in clinical settings where time is often very limited, it can be difficult to ensure that even one such construct is assessed. The Axis II protocol attempts to address this spectrum by providing two recommended sets of instruments, one set for screening and one set for more comprehensive assessment. The screening set necessarily assesses fewer constructs than does the comprehensive set. The choice depends on the clinician's purpose and goals in making such assessments.

Equally important to the selection of constructs is the selection of instruments to measure the particular construct. Again, there are many instruments to choose from, and many factors to consider when making a specific selection. From the perspective of the Consortium in promoting a standardized set of instruments that will facilitate comparisons and collaborations across research sites and more rapidly lead to advances in our understanding, the current instruments formally included in the DC/TMD are recommended unless other considerations prevail for a given application or setting. Further information will be provided elsewhere for creating cross-instrument equivalency scoring should an investigator choose a different instrument for a given construct.

Scoring and missing data

Standard scoring rules, as based on published evidence or on guidelines from the instrument developer, are provided for each instrument and summarized in Appendix 1. The extent of missing data is also stated; missing data exceeding the stated cutoffs should lead to either re-administration of the instrument or not reporting that score.

General Interpretation

Interpretation guidelines are provided for each instrument. Classification of scores to a severity level will be readily accomplished via a forthcoming Scoring Graph (Appendix 2). More difficult, however, is interpretation across instruments. Is one "severe" score enough to indicate a problem? Or, are two "mild" scores enough? In general, the evidence appears to indicate that both of these questions can be answered in the affirmative. In other words, the clinician must always remember that the Axis II instruments are screeners, which means that false negatives and false positives occur;

moreover, the scale scores are not tied to any particular environmental trigger, behavior, or other clinical condition. The interpretation of the score from each instrument must be considered in light of the individual's history. The overall interpretation across instruments awaits further evidence.

How to cite this document

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References

Schiffman E, Ohrbach R, Truelove E, et al. Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for Clinical and Research Applications: Recommendations of the International RDC/TMD Consortium Network and Orofacial Pain Special Interest Group. Journal of Oral & Facial Pain and Headache 2014;28(1):6-27.

Ohrbach R, List T, Goulet J-P, Svensson P. Recommendations from the International Consensus Workshop: Convergence on an Orofacial Pain Taxonomy. Journal of Oral Rehabilitation 2010;37:807-12.

Description and Scoring Rules

TMD Pain Screener

Description

This is one of two Axis I self-report instruments. The full instrument can be administered, which is recommended for assessing individuals, or only the first 3 items can be administered for population studies.

Scoring

The first item has scores of 0-2 (a=0, b=1, c=2), while the remaining items are scored simply as a=0, b=1. A sum is computed.

Missing data

No scoring can be done if responses to any items are missing, due to the nature of the item content.

Interpretation

Values equal to or exceeding the cut-offs of 3 (i.e., ≥ 3) for the full 6-item version or of 2 (i.e., ≥ 2) for the 3-item version indicate that TMD may be present.

References

Gonzalez YM, Schiffman E, Gordon G, Seago B, Truelove EL, Slade G, Ohrbach R. Development of a brief and effective temporomandibular disorder pain screening questionnaire: reliability and validity. *JADA* 142:1183-1191, 2011.

DC/TMD Symptom Questionnaire

Description

The Symptom Questionnaire (SQ) subsumes the TMD Pain Screener; if the SQ is administered, the TMD Pain Screener is redundant. The SQ is used to more fully assess jaw pain and factors necessary for a myalgia or arthralgia diagnosis, presence of temporal region headache and factors that modify that pain, and joint noises and locking of the TMJs. The instrument was designed to be followed by an interview for clarification and confirmation of the responses to all items; it is not intended to be a self-complete instrument. In particular, the third section assessing TMJ noises and locking require further interview in order to establish whether right, left, or both sides are involved; the instrument was designed in this way due to known poor reliability when asking about noises and locking with regard to which side, but better (and acceptable) reliability when inquiring more generally. Consequently, the instrument should not be modified by asking the patient or participant to indicate which side.

Scoring

Items from each section are used as part of the diagnostic algorithms for each disorder within the DC/TMD.

Missing data

Review for clarification and confirmation should insure that all items are completed.

Interpretation

Clarifications provided via interview are interpreted based on expert knowledge. The final responses are interpreted according to the diagnostic criteria.

References

Schiffman E, Ohrbach R, Truelove E, et al. Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for Clinical and Research Applications: Recommendations of the International RDC/TMD Consortium Network and Orofacial Pain Special Interest Group. Journal of Oral & Facial Pain and Headache 2014;28(1):6-27.

Pain Drawing

Description

A variety of formats can be used for a pain drawing; an image of only the entire body is most common. For primary purposes of the pain drawing in the DC/TMD Axis II, a full-body only framework would be sufficient: a reporting of all pains and their extent is sufficient for assessing the construct of wide-spread pain. For differential diagnostic purposes, however, a detailed presentation of the face and intra-oral area is also of value; the additional detailed information available via completion of those sections should be considered for the Axis I diagnosis as well.

Scoring

Pain reported in distinct body regions, especially if related to known regional disorders (e.g., headache, back pain, pelvic pain, neck pain), can be summarized as a count variable. Extent of pain can be computed as % of the body area (through use of image scanning software; see References). Patterns of pain spreading are sometimes noted on a drawing, as are non-anatomical distributions; the latter require qualitative interpretation.

Missing data

A common problem with administering a pain drawing in a dental setting is that the respondent (patient, research subject) assumes that only pains related to the jaw and teeth are of interest. Respondents should be asked if all pains were recorded.

Interpretation

There is no single method for assessing and interpreting the analog drawing of pain locations on the body. In fibromyalgia, opposite quadrants in addition to spinal area reporting is required, whereas for widespread body pain, “several” areas appear to be the minimum; extent of what constitutes an area is undefined. The simplest interpretation is that each body site marked with pain increases the risk of developing another pain disorder as well as for chronic pain. In general, the number and extent of body areas reported as painful should be correlated with the history and relevant clinical examination. See Description (this section) for comments about Axis I applications of the pain drawing.

References

Dworkin SF, Von Korff MR, LeResche L. Multiple pains and psychiatric disturbance: An epidemiologic investigation. Archives of General Psychiatry 1990;47:239-44.

Klong Image Measurement. http://www.imagemeasurement.com/experience-image-measurement/pain-assessment-image-measurement

ImageJ: Image Processing and Analysis in Java. http://imagej.nih.gov/ij/

Macfarlane, G. J., et al. (1996). Widespread pain: is an improved classification possible? *Journal of Rheumatology* **23**(9): 1628-1632.

Margolis, R. B., et al. (1988). Test-retest reliability of the pain drawing instrument. *Pain* **33**: 49-51.

Ohrbach R, Fillingim RB, Mulkey F, et al. Clinical findings and pain symptoms as potential risk factors for chronic TMD: Descriptive data and empirically identified domains from the OPPERA case-control study. Journal of Pain 2011;12 (11, Supplement 3):T27-T45.

Sanders AE, Slade GD, Bair E, et al. General health status and incidence of first-onset temporomandibular disorder: OPPERA prospective cohort study. Journal of Pain 2013.

GCPS: Graded Chronic Pain Scale

Description

Version 2 of the GCPS includes, in addition to the 3 items for pain intensity and 4 items for function, one item for number of days of pain. The author of the GCPS recommends that number of days of pain use a 6-month base in order to better evaluate for long-term patterns in pain persistence; the response to this item is not scored but rather is interpreted based on the pain and psychosocial history. The remainder of the published instrument was validated on the basis of a 6-month time frame and has been extensively used across multiple disorders, languages, and settings; a 3-month version with some validity data has been advocated. A 1-month version has also been used in many clinical trials as an outcome measure, where a shorter recent period is needed in order to evaluate what may be on-going change in pain status. The DC/TMD included the 1-month version in order to match the timeframe of pain and disability assessment to the timeframe used for diagnosis as well as the other instruments. Some users, however, may prefer a 3-month or 6-month time frame for these important measures. The 6-month GCPS is also available on the Consortium website, and Appendix 1 also includes the scoring rules for the 180-day version.

Scoring (item numbers refer to GCPS v2.0, as 30-day version in DC/TMD)

Characteristic Pain Intensity (CPI): compute mean of items 2-4 (pain right now, worst pain, average pain), and multiply by 10.

Interference Score: compute mean of items 6-8 (daily activities, social activities, work activities), and multiply by 10.

Disability points for number of days with interference: assign points based on below table, depending on whether using 1-month (30 day) or 6 month (180 day) time frames for item 5 (disability days) in the GCPS v2.0 version or item 4 in the original RDC/TMD 180-day version.

Disability points for the interference score: assign points based on the below table; the determination is the same for both time frames.

Points for Disability Days				Points for Pain-related Interference Score	
1 month (30 day)		6 months (180 days)			
Days	Points	Days	Points	Interference	Points
0-1	0	0-6	0	0-29	0
2	1	7-14	1	30-49	1
3-5	2	15-30	2	50-69	2
6+	3	31+	3	70+	3

The total Disability Points = Points for Disability Days + Points for Interference Score.

Missing data

If one or more responses are missing among items 2-4 (pain intensity), the respective subscale should not be scored due to the broad scope that the three items cover. For the function items (6-8), one missing value may not represent the same information loss, and the subscale score could be computed albeit with decreased reliability. Missing data for number of disability days precludes determination of graded chronic pain status.

Interpretation

Determination of Chronic Pain Grade

Grade	Label	CPI	Disability Points
0	None	0	N/A
I	Low intensity pain, without disability	< 50	< 3
II	High intensity pain, without disability	$\geq$ 50	< 3
III	Moderately limiting	N/A	3 - 4
IV	Severely limiting	N/A	5 - 6

References

Von Korff, M. (2011). Assessment of chronic pain in epidemiological and health services research: Empirical bases and new directions. *Handbook of Pain Assessment*, Third Edition. D. C. Turk and R. Melzack. New York, Guilford Press**:** 455-473.

Von Korff, M., et al. (1992). Grading the severity of chronic pain. *Pain* **50**: 133-149.

Von Korff, M. R., et al. (1992). Research diagnostic criteria. Axis II: Pain-related disability and psychological status. In: S.F. Dworkin & L. LeResche (Eds.), Research Diagnostic Criteria for Temporomandibular Disorders. *Journal of Craniomandibular Disorders, Facial and Oral Pain* **6**: 330-334.

JFLS: Jaw Functional Limitation Scale

Description

The JFLS was initially developed as an 8-item global scale for overall functional limitation of the masticatory system; based on the resultant items and supporting psychometric data, the instrument was re-developed in order to expand measured constructs to also include masticatory limitation, vertical mobility limitation, and verbal and non-verbal communication limitation, comprised within a 20-item instrument that also retained the items for the short global scale. Consequently, the full instrument could be used at baseline, from which all three subscales as well as the global score could be derived, and the short instrument could be used at follow-up, from which the global score could be derived; measurement congruence across time for a global score would be retained in addition to having subscale scores at baseline. Alternatively, one research group could use the short form and another group could use the long form, and the subscale scores would have measurement congruence across the two settings due to the very high reliability of the global score, whether derived from the full instrument or from the short instrument.

Scoring

From either the short form (all items) or the long form (items 1, 3, 6, 10, 11, 12, 13, and 19), a single global score of "jaw functional limitation" can be computed as the mean of the available items.

Subscale scores for each type of functional limitation are computed, as follows:

- *Mastication*: mean of items 1-6.
- *Mobility*: mean of items 7-10.
- *Verbal and non-verbal communication*: mean of items 13-20.

A second type of global score can be obtained from the long form by computing the mean of the 3 subscale scores, as computed above. Note that all 3 subscale scores must be present in order to compute the global score in this manner.

Alternative scoring can be achieved through the use of Rasch software, but this is not further described in this manual.

Missing data

For the JFLS-20, scores can be computed based on no more than the following number of items with missing response: short form, 2 items missing allowed; mastication, 2 items missing allowed; mobility, 1 item missing allowed; and communication, 2 items missing allowed. For the JFLS-8, no more than 2 items may be missing. Computation of a score with missing items is adjusted by dividing by number of items present.

Interpretation

Norms have not yet been established for this instrument. Based on comparison of individuals who were lifetime negative for TMD to those with chronic TMD, observed scores were as follows:

Scale	No lifetime TMD		Chronic TMD	
	Mean	SE	Mean	SE
Mastication limitation	0.28	0.02	2.22	0.13
Mobility limitation	0.18	0.02	2.22	0.13
Verbal and Emotional Expression Limitation	0.14	0.02	0.72	0.10
Global	0.16	0.02	1.74	0.11

References

Ohrbach, R., et al. (2008). The Jaw Functional Limitation Scale: Development, reliability, and validity of 8-item and 20-item versions. *Journal of Orofacial Pain* **22**: 219-230.

Ohrbach, R., et al. (2011). "Clinical findings and pain symptoms as potential risk factors for chronic TMD: Descriptive data and empirically identified domains from the OPPERA case-control study." *Journal of Pain* **12**(11, Supplement 3): T27-T45.

PHQ-9: Depression

Description

The PHQ-9 is comprised of 9 items assessing depressed mood; an 8-item version also exists, which omits the question about suicidal ideation, for use in settings where the inclusion of that item represents specific challenges; see Kroenke, 2009, for further information. In addition to the 8 or 9 depression-related items, the instrument includes one additional item that assesses life interference due to any positive responses to the content items measuring depressed mood state. The depression items are interpreted quantitatively, while the life interference item is interpreted qualitatively. For clinical interview, the life interference item is particularly useful as a starting point for discussion of the individual's mood status.

Scoring

A total sum score is computed.

Missing data

Up to 3 items can be missing, and a valid score is generally assumed. For example, if 2 items are missing, then the sum of the remaining 7 items is computed, divided by 7, and multiplied by 9 in order to create a score in the same metric as though all 9 items had valid responses.

Interpretation

Scores of 5, 10, 15, and 20 represent cut-points for mild, moderate, moderately severe and severe depression, respectively.

References

Kroenke, K., et al. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine* **16**(9): 606-613.

Kroenke, K., et al. (2009). "The PHQ-8 as a measure of current depression in the general population." Journal of Affective Disorders **114**(1-3): 163-173.

GAD-7: Anxiety

Description

The GAD-7 is comprised of 7 items assessing anxious mood and behavior. The instrument includes one additional item that assesses life interference due to any positive responses to the content items measuring anxious mood state. The anxiety items are interpreted quantitatively, while the life interference item is interpreted qualitatively. See PHQ-9 Description for comment about the qualitative item.

Scoring

A total sum score is computed.

Missing data

Up to 2 items can be missing, and a valid score is generally assumed. The logic of the computation is described under PHQ-9.

Interpretation

Scores of 5, 10, and 15 represent cut-points for mild, moderate, and severe anxiety, respectively.

References

Spitzer, R. L., et al. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of Internal Medicine* **166**(10): 1092-1097.

PHQ-4: Distress (Depression & Anxiety)

Description

The PHQ-4 is comprised of two 2-item subscales, anxiety and depression, and it is intended to be an ultrabrief screener for distress as the composite construct of anxiety and depression. The core items for each of the two component constructs are identical to those on the parent instruments, the GAD-7 and the PHQ-9.

Scoring

A total sum score is computed.

In principle and according to the instrument authors, the two subscales can be scored separately; however, reliability is compromised. Consequently, only the single score based on all 4 items is recommended by the present authors.

Missing data

With only 4 items, it is permissible to have 1 missing item response; the total score should be adjusted accordingly since the cutoffs are based on responses to all 4 items. For example, if one item is missing, the sum of the remaining 3 items is computed, divided by 3, and then multiplied by 4. Note that this approach assumes that the score on the missing item would have been the mean of the remaining items; this assumption may or may not be appropriate, given that only 4 items are addressing two complex constructs and there are only 2 items for each of the complex constructs.

Interpretation

Scores of 3, 6, and 9 represent cut-points for mild, moderate, and severe distress, respectively.

References

Kroenke, K., et al. (2009). An ultra-brief screening scale for anxiety and depression: the PHQ-4. *Psychosomatics* **50**(6): 613-621.

Löwe, B., et al. (2010). A 4-item measure of depression and anxiety: Validation and standardization of the Patient Health Questionaire-4 in the general population. *Journal of Affective Disorders* **122**(1-2): 86-95.

PHQ-15: Physical Symptoms

Description

The PHQ-15 is comprised of 15 items and assesses non-specific physical symptoms, also referred to as functional symptoms or medically unexplained symptoms; this scale corresponds to the Somatization scale in the RDC/TMD in terms of utility and construct. While the response scale for the PHQ-9, GAD-7, and PHQ-4 comprises 4 points, the response scale for the PHQ-15 comprises only 3 points due to poor reliability of a 4-point response scale.

Scoring

Items are scored by adding the individual responses. A total sum score is computed.

Missing data

Up to 5 items can be missing, and a valid score is generally assumed. The computation is described under PHQ-9.

Interpretation

Scores of 5, 10, and 15 represent cut-points for low, medium, and high physical symptoms, respectively.

References

Kroenke, K. (2006). Physical symptom disorder: a simpler diagnostic category for somatization-spectrum conditions. *Journal of Psychosomatic Research* **60**(4): 335-339.

Kroenke, K., et al. (2002). The PHQ-15: validity of a new measure for evaluating the severity of somatic symptoms. *Psychosomatic Medicine* **64**(2): 258-266.

OBC: Oral Behaviors Checklist

Description

The OBC was initially developed as a checklist (hence, the instrument name) in order to better determine the presence of parafunctional behaviors; there was no expectation for scoring other than a simple count of the number of behaviors. Since initial development, use of the instrument has expanded in multiple studies, collectively providing some level of validation for the construct having a relationship to TMD. Measurement properties have not yet been established.

Scoring

Scoring can be computed as the sum of the number of items with non-zero response or as a weighted sum (i.e., sum of the endorsed frequencies of the respective items). Response options are scored 0-4 for each item.

Missing data

No information exists regarding how missing items might be managed.

Interpretation

Norms have not yet been established for this instrument. Based on comparison of individuals with chronic TMD vs those without TMD, an OBC summary score of 0-16 appears to represent normal behaviors, while a score of 17-24 occurs twice as often in those with TMD, and a score of 25-62 occurs 17 times more often. As a risk factor for TMD, only a score in the 25-62 range contributes to TMD onset.

References

Markiewicz, M. R., et al. (2006). "Oral Behaviors Checklist: Reliability of Performance in Targeted Waking-state Behaviors." *Journal of Orofacial Pain* **20**: 306-316.

Ohrbach, R., et al. (2004). "Psychometric properties of the Oral Behaviors Checklist: Preliminary findings." *J Dent Res* **83**.

Ohrbach, R., et al. (2008). "Waking-state oral parafunctional behaviors: specificity and validity as assessed by electromyography." *European Journal of Oral Sciences* **116**: 438-444.

Ohrbach, R., et al. (2011). "Clinical findings and pain symptoms as potential risk factors for chronic TMD: Descriptive data and empirically identified domains from the OPPERA case-control study." *Journal of Pain* **12**(11, Supplement 3): T27-T45.

Ohrbach, R., et al. (2013). "Clinical orofacial characteristics associated with risk of first-onset TMD: the OPPERA prospective cohort study." *Journal of Pain* **14 (Supplement 2)**(12): T33-T50.

Appendix 1: Summary of scoring rules for Axis-II instruments

Scale	Missing items	Scoring	Range	Interpretation
Pain Drawing				
	Inquire if all pain areas were recorded	1. Count the number of areas 2. Qualitative	N/A	Each additional pain area increases the probability of developing another pain disorder. Consider generalized treatments
Graded Chronic Pain Scale				
GCPS 2.0 for 30 days				
CPI (Characteristic pain intensity)	None allowed	Compute mean of items 2-4, multiply by 10	0-100	0 no pain 0-49 low intensity pain ≥ 50 high intensity pain
Limitation days	None allowed; value must be within 0-30	Compute disability points from item 5: Days — Disability Points 0-1 — 0 2 — 1 3-5 — 2 6+ — 3	0-3	N/A
Interference	Max 1	Compute mean of items 6-8, multiply by 10 Score — Disability Points 0-29 — 0 30-49 — 1 50-69 — 2 70+ — 3	0-100	N/A
Original GCPS for 180 days				
CPI (Characteristic pain intensity)	None allowed	Compute mean of items 1-3, multiply by 10	0-100	0 no pain 0-49 low intensity pain ≥ 50 high intensity pain
Limitation days	None allowed; value must be within 0-180	Compute disability points from item 4: Days — Disability Points 0-6 — 0 7-14 — 1 15-30 — 2 31+ — 3	0-3	N/A
Interference	Max 1	Mean of items 5-7, multiply by 10 Score — Disability Points 0-29 — 0 30-49 — 1 50-69 — 2 70+ — 3	0-100	N/A
Grade of chronic pain for both GCPS versions				
Grade of chronic pain (for both versions)	All 3 component scores	CPI — Total points — Grade — Grade Label 0 — N/A — 0 — None < 50 — < 3 — I — Low intensity pain, without disability ≥ 50 — < 3 — II — High intensity pain, without disability		

Scale	Missing items	Scoring	Range	Interpretation
	must be present	N/A 3 - 4 III N/A 5 - 6 IV	Moderately limiting Severely limiting	
Jaw Functional Limitation Scale (JFLS)				
JFLS-8				
	Max 2	Sum score of all items on short form, divided by number of items answered	0-10	Not yet established
JFLS-20				
Mastication	Max 2	Sum score of items 1-6, divided by number of items answered	0-10	Not yet established
Mobility	Max 1	Sum score of items 7-10, divided by number of items answered	0-10	Not yet established
Communication	Max 2	Sum score of items 13-20, divided by number of items answered	0-10	Not yet established
Global	None	Mean of Mastication, Mobility, and Communication	0-10	Not yet established
JFLS-8 equivalent	Max 2	Sum score of items 1, 3, 6, 10-13, 19 on JFLS-20 form	0-10	Not yet established
PHQ-9				
	Max 3	$score = \frac{sumscore}{(9 - \text{missing})} * 9$	0-27	≥ 5 Mild Depression ≥ 10 Moderate Depression ≥ 15 Mod Severe Depression ≥ 20 Severe Depression
GAD-7				
	Max 2	$score = \frac{sumscore}{(7 - \text{missing})} * 7$	0-21	≥ 5 Mild Anxiety ≥ 10 Moderate Anxiety ≥ 15 Severe Anxiety
PHQ-4				
	Max 1	$score = \frac{sumscore}{(4 - \text{missing})} * 4$	0-12	≥ 3 Mild Distress ≥ 6 Moderate Distress ≥ 9 Severe Distress
PHQ-15				
	Max 5	$score = \frac{sumscore}{(15 - \text{missing})} * 15$	0-30	≥ 5 Low Symptom Severity ≥ 10 Med Symptom Severity ≥ 15 High Symptom Severity
OBC				
Method 1	Not known	Number of items > 0	0-21	Not known
Method 2	Not known	Sum score of all items	0-84	0 None 1-24 Low 25-84 High

Appendix 2: Scoring worksheet for Axis-II instruments

Scale	Computation	Score
Pain Drawing	*Total number areas =*	
Graded Chronic Pain Scale (v2: 30-day reference frame; classic scoring which does not split Grade II)		
Characteristic pain	$\frac{item\ 2 + item\ 3 + item\ 4}{(3)} = \frac{[\quad] + [\quad] + [\quad]}{(3)} = [\quad] * 10 =$	
Interference score	$\frac{item\ 6 + item\ 7 + item\ 8}{(3)} = \frac{[\quad] + [\quad] + [\quad]}{(3)} = [\quad] * 10 =$	
Disability points assignment	# Disability days: points *Days* / *Disability Points* 0-1 / 0 2 / 1 3-5 / 2 6+ / 3 Interference score: points *Score* / *Disability Points* 0-29 / 0 30-49 / 1 50-69 / 2 70+ / 3	
Graded Chronic Pain Status	Total disability points = Day points + Interference points = [ ] + [ ] = [ ] *CPI* / *Total Disability points* / *Grade* 0 / N/A / 0 < 50 / < 3 / I ≥ 50 / < 3 / II N/A / 3 – 4 / III N/A / 5 - 6 / IV	
Jaw Functional Limitation Scale		
JFLS-8	$\frac{sumscore\ (all\ items)}{(8 - \text{missing})} =$	
Mastication	$\frac{sumscore\ (items\ 1-6)}{(6 - \text{missing})} = = \frac{[\quad]}{(\quad)} =$	
Mobility	$\frac{sumscore\ (items\ 7-10)}{(4 - \text{missing})} = = \frac{[\quad]}{(\quad)} =$	
Verbal and Emotional Communication	$\frac{sum\ (items\ 13-20)}{(8 - \text{missing})} = \frac{[\quad]}{(\quad)} =$	
Global	$\frac{Mastication + Mobility + Communication}{(3)} = \frac{[\quad] + [\quad] + [\quad]}{(3)} = \frac{[\quad]}{(\quad)} =$	
JFLS-equivalent	$\frac{sumscore\ (items\ 1,3,6,10,11,12,13,19)}{(8 - \text{missing})} = \frac{[\quad]}{(\quad)} =$	
PHQ-9	$\frac{sumscore}{(9 - \text{missing})} = \frac{[\quad]}{(9 - [\quad])} = \frac{[\quad]}{(\quad)} = [\quad] * 9 =$	
GAD-7	$\frac{sumscore}{(7 - \text{missing})} = \frac{[\quad]}{(7 - [\quad])} = \frac{[\quad]}{(\quad)} = [\quad] * 7 =$	
PHQ-4	$\frac{sumscore}{(4 - \text{missing})} = \frac{[\quad]}{(4 - [\quad])} = \frac{[\quad]}{(\quad)} = [\quad] * 4 =$	
PHQ-15	$\frac{sumscore}{(15 - \text{missing})} = \frac{[\quad]}{(15 - [\quad])} = \frac{[\quad]}{(\quad)} = [\quad] * 15 =$	
OBC	*Sumscore =*	

Appendix 3: Scoring report form

Pain Drawing

Number of body areas with pain	0	1	2	3	4	5	>5
	NONE	MILD	MODERATE	SEVERE			

GCPS

Characteristic Pain Intensity	0	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
	NONE	LOW					HIGH				

Interference	0-29	30-49	50-69	70+
	0	1	2	3

Chronic Pain Grade	0	I	II	III	IV
	NONE	NO DISABILITY	NO DISABILITY	MODERATELY LIMITING	SEVERELY LIMITING

JFLS-20

Mastication	0	1	2	3	4	5	6	7	8	9	10
Mobility	0	1	2	3	4	5	6	7	8	9	10
Communication	0	1	2	3	4	5	6	7	8	9	10
Global	0	1	2	3	4	5	6	7	8	9	10

PHQ-9

Depression	0-4	5-9	10-14	15-19	20-27
		MILD	MODERATE	MOD-SEVERE	SEVERE

GAD-7

Anxiety	0-4	5-9	10-14	15-21
		MILD	MODERATE	SEVERE

PHQ-15

Somatic Symptom Severity	0-4	5-9	10-14	15-30
		LOW	MEDIUM	HIGH

OBC

Parafunction	0	1-24	25-84
		LOW	HIGH

Appendix 4: Changes to this document

2021/03/30: For the TMD Pain Screener, the threshold cutoffs were indicated incorrectly using the “>” operation; this was corrected to “≥”.

2021/03/30: For the OBC, scoring of each response option was augmented by indicating that the range is 0-4.

2018/10/30: In Appendix 2, the Total disability points computation section omitted the score values for Grade IV; that information was, however, available in Appendix 1.

2017/01/09: In Appendix 2, the GAD-7 had been rendered by typo as PHQ-7.