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Psychometric Study of the Pain Drawing

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Abstract

Purpose—The objectives of the study were to (1) assess the extent to which interrater reliability of pain drawing location and dispersion scoring methods are similar across pain disciplines in a sample of patients with cancer treatment-induced neuropathic pain ($N = 56$) and (2) investigate indicators of validity of the pain drawing in this unique sample.

Methods—Patients undergoing cancer therapy completed the Brief Pain Inventory Body Map, the MD Anderson Symptom Inventory, and the McGill Pain Questionnaire.

Results—Intraclass correlation coefficients among medical and psychology professionals ranged from .93–.99. Correlations between pain drawing score and symptom burden severity ranged from .29–.39; correlations between pain drawing score and symptom burden interference ranged from .28–.34. Patients who endorsed pain in the hands and feet more often described their pain as electric, numb, and shooting than patients without pain in the hands and feet. They also endorsed significantly more descriptors of neuropathic pain.

Conclusions—Results suggest a similar understanding among members of a multidisciplinary pain team as to the location and dispersion of pain as represented by patients' pain drawings. In addition, pain drawing scores were related to symptom burden severity and interference and descriptors of neuropathic pain in expected ways.

Keywords

pain drawing; cancer; chemotherapy-induced peripheral neuropathy; interrater reliability; validity

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Introduction

The pain drawing is a subjective measure of pain completed by indicating painful sites on body maps. Interrater reliability of the pain drawing has been well studied in patients with low back pain (Margolis, Tait, & Krause, 1986; Uden, Astrom, & Bergenudd, 1988; Parker, Wood, & Main, 1995). Less is known about the psychometric properties of the pain drawing in patients with cancer treatment-induced neuropathic pain, a common side effect of therapeutic agents used to treat cancer, including vinca alkaloids, taxanes, bortezomib, thalidomide, platinum-based compounds, and ionizing radiation.

A multidisciplinary team approach to the management of chronic pain may comprise professionals representing such varied fields as medicine, psychology, rehabilitation, vocational counseling, pharmacy, nutrition/dietetics, and social work (Turk et al., 2010), all of whom could benefit from use of the pain drawing in their practice. Scoring of the pain drawing is a subjective process and how it might vary by professional background remains a critically unexplored question.

Pain drawing scoring schemes can capture many aspects of pain, including pain location and pain dispersion. Pain location methods differ as a function of the number of anatomical areas illustrated (e.g., Lacey, Lewis, Jordan, Jinks, & Sim, 2005: 23 ventral, 25 dorsal; Margolis et al., 1986: 22 ventral, 23 dorsal). Pain dispersion scoring methods (e.g., Bryner, 1994; Gatchel, Mayer, Capra, Diamond, & Barnett, 1986; Lacey et al., 2005; Parker et al., 1995) also divide the ventral and dorsal aspects of the human figure into a set number of anatomical areas, but here a sum total of painful areas constitutes the score. In some cases, the same drawing has been scored with an eye to pain location or to pain dispersion (e.g., Lacey et al., 2005). Although the current paper focuses on scoring methods completed by hand, there do exist alternative scoring methods completed with the use of technology (e.g., Barbero et al., 2015; Bryner, 1994; Felix et al., 2010; Persson, Garametsos, & Pedersen, 2011; Sanders, Mann, & Spengler, 2006; Wenngren & Stalnacke, 2009).

Scoring of the pain drawing for published psychometric studies has been completed with much success by raters of diverse disciplinary backgrounds. These have ranged from trained clerical staff (Margolis et al., 1986) and trained novices (Bryner, 1994; Lacey et al., 2005; Uden et al., 1988) to experienced raters (Lacey et al., 2005; Uden et al., 1988), chiropractic students (Bryner, 1994; Southerst, Stupar, Cote, Mior & Stern, 2013), a chiropractic resident (Southerst et al., 2013), a physician (Bertilson et al., 2007) and a Doctor of Naprapathy (Bertilson et al., 2007). As far as we know, none of these studies have compared interrater reliability as a function of disciplinary background. In addition, although raters from the field of medicine have been represented to some extent, representatives of the field of psychology are noticeably absent.

Taken together, these studies suggest that pain drawing scoring methods demonstrate good interrater reliability. However, samples have tended to be homogeneous with regard to the nature and origin of pain, and the study of interrater reliability as a function of disciplinary background has not been studied to date. The primary objectives of the current study were to assess interrater reliability of two scoring methods, one of pain location (Margolis et al.,

1986) and one of pain dispersion (Gatchel et al., 1986) in a sample of patients with cancer treatment-induced neuropathic pain. This represents an application of the pain drawing to a novel patient population. A secondary objective of the study was to address the lack of validity support in the literature with investigation of potential indicators of validity of the pain drawing in this unique sample.

Methods

Participants and Setting

The current investigation was an ancillary study to a larger, longitudinal study of psychophysical properties of pain that has developed as a consequence of cancer therapy with either vinca alkaloids, taxanes, bortezomib, thalidomide, platinum-based compounds, or ionizing radiation. For the parent study, participants included 286 patients at a large comprehensive cancer center in the United States, who were being seen by the Pain Management Service and/or the Leukemia, Myeloma, Breast, Gastrointestinal, or Lung Cancer clinics. Participants were eligible for the parent study if they were entering or undergoing cancer therapy with the above-named agents. For the current study, we included only patients who were undergoing cancer therapy with the above-named agents ($n = 56$) and excluded patients who had not yet begun cancer therapy. The appropriate Institutional Review Board approved the study, and informed consent was obtained from each participant.

Measures

Brief Pain Inventory (BPI) Body Map—Participants were instructed to indicate sites of pain and areas of sensory disturbance/abnormality on the BPI body map (Tan, Jensen, Thornby, & Shanti, 2004) depicting the ventral and dorsal aspects of the human figure. Completion of the body map coincided with cancer therapy treatment visits.

MD Anderson Symptom Inventory (MDASI)—The MDASI (Cleeland et al., 2000) is a 19-item measure assessing the severity of and interference caused by symptoms associated with cancer and its treatment. Participants rate the severity of each of 13 symptoms (e.g., pain, fatigue, nausea) when it was at its worst during the last 24 hours using a Likert-type scale ranging from 0–10, where 0 = “Not present,” and 10 = “As bad as you can imagine.” Participants then rate how much the symptoms have interfered with areas of one’s life (e.g., general activity, mood, work) using a Likert-type scale ranging from 0–10, where 0 = “Did not interfere,” and 10 = “Interfered completely.”

Both the severity and interference factors demonstrated good internal consistency reliability in initial and cross-validation samples of clinic outpatients from the Departments of Blood and Marrow Transplantation, Hematology, Breast Medical Oncology, Genitourinary Medical Oncology, Gastrointestinal Oncology, Radiation Oncology, and Thoracic/Head and Neck Medical Oncology (Cronbach’s $\alpha = 0.85$ [initial sample, severity factor], 0.91 [initial sample, interference factor], 0.87 [cross-validation sample, severity factor], 0.94 [cross-validation sample, interference factor]). Since Cleeland et al.’s (2000) report, internal consistency reliability has been demonstrated in patients with primary brain tumor (Armstrong et al., 2006), head and neck cancer (Rosenthal et al., 2007), cancer and heart

failure (Fadol et al., 2008), thyroid cancer (Gning et al., 2009), and non-Hodgkin's lymphoma (Anderson et al., 2007).

Good construct validity was demonstrated in Cleeland et al.'s (2000) report showing a general symptom severity factor and a gastrointestinal factor in both initial and cross-validation samples described above. In addition, symptom severity and interference emerged as two different factors in a study of differences in symptom endorsement in patients undergoing bone marrow transplantation, chemotherapy, or no treatment.

McGill Pain Questionnaire—A modified version of the McGill Pain Questionnaire (MPQ; Melzack, 1975) was administered to capture the nature of the patient's pain. Patients circled each descriptor that described their present pain. Descriptors included drilling, stabbing, sharp, squeezing, tugging, tearing, dull, splitting, tingling, itching, hot, burning, cold, numb, spreading, flashing, flickering, throbbing, shooting, and electric. For the purposes of the current study, descriptors indicative of neuropathic pain were of primary interest. These included stabbing, tingling, burning, numb, shooting, and electric. The MPQ has demonstrated good test-retest reliability in Melzack's (1975) original study as well as in samples of patients with cancer (Graham, Bond, Gerkovich, & Cook, 1980).

Pain Drawing Scoring

A total of 65 pain drawings from 56 unique patients (some patients had completed more than one pain drawing over the course of their treatment) were independently scored by one pain physician (M.D.) and two clinical psychology fellows (PhD) in the areas of behavioral medicine and pain using two rating systems, one of pain location (Margolis et al., 1986) and one of pain dispersion (Gatchel et al., 1986). Margolis et al.'s (1986) system divided the human figure into 22 anatomical areas on the ventral aspect of the human figure and 23 anatomical areas on the dorsal aspect. Drawings were scored with the use of a transparency by indicating "yes" or "no" whether the patient indicated pain in each of the 45 total anatomical areas. A percentage score was calculated to capture proportion of the body in pain. Gatchel et al. (1986) devised a grid overlay allowing a count of 110 painful areas on the ventral aspect of the human figure and 108 areas on the dorsal aspect. Drawings were scored with the use of a transparency by totaling the number of areas indicated as painful by the patient. Proportion of the body in pain can be determined by dividing the total number of areas indicated as painful by the patient by the total number of areas on the human figure (i.e., 218).

A random 10% ($n = 43$) of the parent study pain drawings were initially selected for review. When raters disagreed as to whether a patient indicated an anatomical area as painful using Margolis et al.'s (1986) system, all raters verified or modified their scores independently. When discrepancies persisted, raters discussed the rationale for their scores, but no further modifications were made to the scores. Raters then reviewed discrepancies in scores obtained using Margolis et al.'s (1986) system for the remaining 90% of the drawings. During this review, raters determined whether discrepancies were the result of true differences in scoring or error. We considered discrepancies to be true differences when the discrepant anatomical area was adjacent to an anatomical area that all raters agreed was

endorsed by the patient. This was to account for marks that one rater may have perceived crossed a boundary line versus another rater who may have disagreed. In these cases, no modifications were made to scores. We considered discrepancies to be errors when the discrepant anatomical area was not adjacent to an anatomical area that all raters endorsed. This was to account for situations where markings were overlooked by one or two raters. In these cases, raters were advised to re-score the drawing. No further modifications to scores were made after re-scoring.

Analytic Plan

Reliability—For each analysis, interrater reliability is presented for intra-professional (psychology fellow to psychology fellow) and inter-professional (psychology fellow to pain physician) comparisons. Intraclass correlation coefficients were computed for comparisons of scores obtained from Gatchel et al.'s (1986) pain dispersion scoring method. Intraclass correlation coefficients were computed for comparisons of percentage of body in pain identified using Margolis et al.'s (1986) pain location scoring method. For each rater, Spearman correlation coefficients were calculated to determine the relation between number of grids marked as painful using Gatchel et al.'s (1986) method for both the ventral and dorsal aspects of the human figure and percentage of body in pain indicated using Margolis et al.'s (1986) method.

Validity—Spearman correlation coefficients were calculated to determine the relations between pain dispersion (i.e., number of grids marked as painful using Gatchel et al.'s [1986] method for both the ventral and dorsal aspects of the human figure) and percentage of body in pain (i.e., body region percentage using Margolis et al.'s [1986] method) and both the severity and interference of symptom burden as indicated by the MDASI. In addition, the frequency of neuropathic pain descriptors from the MPQ (i.e., electric, shooting, numb, burning, tingling, stabbing) endorsed by participants indicating pain in the hands and feet using Margolis et al.'s (1986) method were reported. At least two of the three raters needed to have indicated endorsement of the hands and feet by the patient. Also reported were the severity and interference of symptom burden for these participants, as indicated by the MDASI.

Results

Descriptive Statistics

Patient sample—A total of 65 patient pain drawings were reviewed. Of the 56 patients who produced the drawings, 28 were male and 28 were female. Mean age was 58.2 ($SD = 8.9$). The majority of patients were White ($n = 36$, 64.29%) and married ($n = 44$, 78.57%). Multiple myeloma was the most common diagnosis ($n = 35$, 62.5%), followed by carcinoma of the breast ($n = 5$, 8.93%) and lymphoma ($n = 5$, 8.93%). The majority of patients had received bortezomib as part of their treatment ($n = 30$, 58.82%); 12 had received thalidomide (23.53%). Other therapeutic agents were received on a more infrequent basis. Patients were an average of 1384 days ($SD = 2220$) from diagnosis (i.e., 3.9 years). Refer to Table 1 for a complete description of the patient sample.

Pain descriptors—Neuropathic pain descriptors of interest from the McGill Pain Questionnaire included burning, electric, numb, shooting, stabbing, and tingling. Tingling and numb were more often endorsed than not in this sample (tingling: $N = 42$, 75%; numb: $N = 38$, 67.9%). Burning, electric, shooting, and stabbing were more often denied than endorsed. Refer to Table 2 for a presentation of relevant pain descriptors.

Symptom burden—The most severe symptoms endorsed on the MDASI in this patient sample included numbness or tingling ($M = 4.1$, $SD = 3$), pain ($M = 3.8$, $SD = 3$), and fatigue ($M = 3.7$, $SD = 2.8$). Mean total symptom severity score was 31.4 ($SD = 23.7$). Symptoms interfered most significantly with work ($M = 4.4$, $SD = 3.2$), walking ($M = 3.7$, $SD = 3.3$), and general activity ($M = 3.5$, $SD = 3.1$). Mean total interference score was 18.9 ($SD = 15.5$). Refer to Table 3 for a complete description of symptom burden.

Interrater Reliability Analyses

Clinical psychology fellows—For Gatchel et al.'s (1986) pain dispersion scoring method, the intraclass correlation coefficient for the ventral aspect of the human figure was 0.98, which shows good agreement; the intraclass correlation coefficient for the dorsal aspect of the human figure was 0.98, which shows good agreement. For Margolis et al.'s (1986) pain location scoring method, the intraclass correlation coefficient was 0.99, which shows good agreement. For one psychology fellow, the Spearman correlation coefficient between number of grids marked as painful on the ventral aspect of the human figure and percentage of body in pain was 0.76, which shows a strong positive relation ($p < .0001$); the Spearman correlation coefficient between number of grids marked as painful on the dorsal aspect of the human figure and percentage of body in pain was 0.79, which shows a strong positive relation ($p < .0001$). For the second psychology fellow, the Spearman correlation coefficient between number of grids marked as painful on the ventral aspect of the human figure and percentage of body in pain was 0.74, which shows a strong positive relation ($p < .0001$); the Spearman correlation coefficient between number of grids marked as painful on the dorsal aspect of the human figure and percentage of body in pain was 0.79, which shows a strong positive relation ($p < .0001$).

Clinical psychology fellow and pain physician—For Gatchel et al.'s (1986) pain dispersion scoring method, the intraclass correlation coefficient for the ventral aspect of the human figure was 0.95, which shows good agreement; the intraclass correlation coefficient for the dorsal aspect of the human figure was 0.93, which shows good agreement. For Margolis et al.'s (1986) pain location scoring method, the intraclass correlation coefficient was 0.90, which shows good agreement. For the psychology fellow, the Spearman correlation coefficient between number of grids marked as painful on the ventral aspect of the human figure and percentage of body in pain was 0.76, which shows a strong positive relation ($p < .0001$); the Spearman correlation coefficient between number of grids marked as painful on the dorsal aspect of the human figure and percentage of body in pain was 0.79, which shows a strong positive relation ($p < .0001$). For the pain physician, the Spearman correlation coefficient between number of grids marked as painful on the ventral aspect of the human figure and percentage of body in pain was 0.75, which shows a strong positive relation ($p < .0001$); the Spearman correlation coefficient between number of grids marked

as painful on the dorsal aspect of the human figure and percentage of body in pain was 0.81, which shows a strong positive relation ($p < .0001$). Refer to Tables 4a–4c for a complete description of Spearman correlation coefficients and significance levels among pain drawing scores for each of the raters.

Validity Analyses

Severity of symptom burden—Among the three raters, the Spearman correlation coefficient between pain dispersion on the ventral aspect of the human figure and severity of symptom burden ranged from .29–.31, indicating a weak to moderate positive relation. The Spearman correlation coefficient between pain dispersion on the dorsal aspect of the human figure and severity of symptom burden ranged from .31–.35, indicating a moderate positive relation.

The Spearman correlation coefficient between percentage of body in pain and severity of symptom burden ranged from .29–.39, indicating a weak to moderate positive relation.

Interference of symptom burden—Among the three raters, the Spearman correlation coefficient between pain dispersion score on the ventral aspect of the human figure and interference of symptom burden ranged from .28–.34, indicating a weak to moderate positive relation. The Spearman correlation coefficient between pain dispersion score on the dorsal aspect of the human figure and interference of symptom burden ranged from .29–.33, indicating a weak to moderate positive relation.

The Spearman correlation coefficient between percentage of body in pain and interference of symptom burden ranged from .31–.34, indicating a moderate positive relation. Refer to Tables 4a–4c for a complete description of Spearman correlation coefficients and significance levels among pain drawing score and symptom burden for each of the raters.

Pain in the hands and feet—Of patients with pain in the hands and feet ($n = 37$), 29 (78.4%) described the pain as numb, 29 (78.4%) as tingling, 18 (48.6%) as burning, 13 (35.1%) as shooting, 12 (32.4%) as electric, and 11 (29.7%) as stabbing. Patients with pain in the hands and feet reported more often than patients without pain in the hands and feet the presence of electric ($p = .04$), numb ($p = .01$), and shooting ($p = .02$) pain. The modal number of neuropathic pain descriptors endorsed was two ($n = 9$, 24.3%); the mean number of neuropathic pain descriptors endorsed was three. Twenty-two patients (59.4%) endorsed three or more neuropathic pain descriptors. Patients with pain in the hands and feet endorsed significantly more neuropathic pain descriptors ($M = 3.03$, $SD = 1.67$) than patients without pain in the hands and feet ($M = 1.5$, $SD = .79$, $p = .001$). There were no differences between patients reporting pain in the hands and feet relative to patients without pain in the hands and feet on severity of symptom burden ($p = .24$) or interference of symptom burden ($p = .37$). Refer to Tables 5 and 6 for a complete description of endorsement and denial of neuropathic pain descriptors and symptom burden as a function of pain in the hands and feet.

Discussion

The purpose of the study was to investigate the extent to which interrater reliability of the pain drawing is similar across psychology and medical disciplines in a sample of patients with cancer treatment-induced neuropathic pain. Given the multidisciplinary nature of pain management, it is useful to know that pain drawings are interpreted similarly across disciplines. Two clinical psychology professionals and a medical professional scored pain drawings using a pain location method (Margolis et al., 1986) and a pain dispersion method (Gatchel et al., 1986). There was good agreement between clinical psychology professionals and between psychology and medical professionals for both scoring methods. This is highly consistent with previous research using scoring methods and statistical analyses akin to those in the current study (Bryner, 1994; Margolis et al., 1986; Southerst et al., 2013): In all cases, intraclass correlation coefficients were equal to or exceeded 0.91. Among each of the raters in the current study, there were strong positive relations between pain location and pain dispersion scores. This important finding supports the desired outcome of strong agreement between members of the same profession and between different disciplines on a multidisciplinary team in their interpretation of patients' descriptions of location and dispersion of pain. This evidence puts to rest the question of individual differences among some members of a multidisciplinary pain team in understanding location and dispersion of pain as represented by patients' pain drawings.

The secondary purpose of the study was to present indicators of validity of the pain location and pain dispersion scoring methods. Very little information exists to help clarify the question about the meaning of pain drawings. This issue seemed especially important among our patients with cancer treatment-induced neuropathic pain. Among all three raters, correlations between each scoring method and severity of symptom burden were weakly to moderately positive. Correlations between each scoring method and interference of symptom burden were also weakly to moderately positive. These findings give confidence that across the two methods of scoring the pain drawings and across raters from the same and different discipline(s), the meaning of the pain drawings in relation to severity of symptom burden and interference of symptom burden were similar. The validity coefficients between severity of symptom burden and interference of symptom burden with pain location and dispersion showed moderate overlap. As would be expected, location and dispersion were only partly related to severity of symptom burden and interference of symptom burden. Many other factors in the cancer pain experience would be expected to account for overlap as well.

Patients who endorsed pain in the hands and feet more often described their pain as electric, numb, and shooting than patients without pain in the hands and feet. They also endorsed significantly more descriptors of neuropathic pain. However, there were no differences between these patient groups in severity of symptom burden or interference of symptom burden.

Limitations

Practice effects may have affected the results of the current study: Some patients had repeated drawings that were scored, and these patients might have become more accurate at

their drawing over time. Human error may also have affected results of the study, as pain drawings were scored manually rather than with computer-based scoring methods. Furthermore, the current study was as an ancillary study to a larger, longitudinal study; therefore, the directions given to patients on how to complete the drawings were not directly monitored and thus standardization cannot be guaranteed. Finally, the current study would have been strengthened by the inclusion of a second pain provider rater; this would have increased interpretability of the interrater reliability between the pain provider and clinical psychology fellow raters.

Future Directions

Future studies may extend this research to other professionals involved in pain management care, including midlevel providers (i.e., physician assistants/nurses). This study looked at a specific type of treatment-induced pain condition (i.e., chemotherapy-induced peripheral neuropathy). Chemotherapy-induced peripheral neuropathy is somewhat homogeneous because pain occurs in the same areas of the body (i.e., feet and hands) for most patients. However, a more heterogeneous population, such as a post-surgical population, may show different findings.

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Table 1

Summary of Patient Characteristics

<u>Characteristic</u>	<u>N</u>	<u>%</u>
Gender		
Female	28	50
Male	28	50
Race		
White	36	64.3
Black	13	23.2
Hispanic	7	12.5
Relationship Status		
Married	44	78.6
Not Married	12	21.4
Diagnosis		
Multiple Myeloma	35	62.5
Breast Carcinoma	5	8.9
Lymphoma	5	8.9
Colorectal Carcinoma	2	3.6
Other	9	16.2
Treatment ^I		
Bortezomib	30	58.8
Thalidomide	12	23.5
Taxanes	7	13.7
Ionizing Radiation	5	9.4
Platinum-based Compounds	5	9.8
Vinca alkaloids	3	5.9

^I Percentages refer to the proportion of participants who endorsed each treatment type relative to those who did not and those who did not respond to the item.

Table 2

Number of Patients Endorsing Each Pain Descriptor

<u>Descriptor</u>	<u>N</u>	<u>%</u>
Tingling	42	75
Numb	38	67.9
Burning	22	39.3
Shooting	14	25
Electric	13	23.2
Stabbing	12	21.4

Table 3

Summary of Symptom Burden

<u>Variable</u>	<u>M</u>	<u>SD</u>
Severity		
Pain	3.8	3
Fatigue	3.7	2.8
Nausea	1	1.7
Disturbed Sleep	3	3
Distressed	2.4	2.6
Shortness of Breath	1.5	2.3
Remembering Things	2	2.2
Lack of Appetite	1.9	2.4
Drowsy	2.7	2.7
Dry Mouth	2.8	3.2
Sad	2.2	2.7
Vomiting	0.5	1.5
Numbness or Tingling	4.1	3
Interference		
General Activity	3.5	3.1
Mood	2.5	2.8
Work	4.4	3.2
Relations with Other People	2	2.6
Walking	3.7	3.3
Enjoyment of Life	2.9	3.1
Total Symptom Severity	31.4	23.7
Total Interference	18.9	15.5

Spearman Correlation Coefficients Among Pain Drawing Score and Symptom Burden (Psychology Fellow 1)

Table 4a

Variable	1	2	3	4	5
1. Pain dispersion score (ventral)	1.00				
2. Pain dispersion score (dorsal)	-	1.00			
3. Body region percentage	0.76***	0.79***	1.00		
4. Severity of symptom burden	0.30*	0.35*	0.35*	1.00	
5. Interference of symptom burden	0.28*	0.33*	0.34*	-	1.00

*** Significant at $p < .0001$ ** Significant at $p < .01$ * Significant at $p < .05$

Table 4b

Spearman Correlation Coefficients Among Pain Drawing Score and Symptom Burden (Psychology Fellow 2)

Variable	1	2	3	4	5
1. Pain dispersion score (ventral)	1.00				
2. Pain dispersion score (dorsal)	-	1.00			
3. Body region percentage	0.74 ***	0.79 ***	1.00		
4. Severity of symptom burden	0.31 *	0.33 *	0.39 **	1.00	
5. Interference of symptom burden	0.30 *	0.29 *	0.32 *	-	1.00

*** Significant at $p < .0001$ ** Significant at $p < .01$ * Significant at $p < .05$

Table 4c
Spearman Correlation Coefficients Among Pain Drawing Score and Symptom Burden (Pain physician/Research fellow)

Variable	1	2	3	4	5
1. Pain dispersion score (ventral)	1.00				
2. Pain dispersion score (dorsal)	-	1.00			
3. Body region percentage	0.75***	0.81***	1.00		
4. Severity of symptom burden	0.29*	0.31*	0.29*	1.00	
5. Interference of symptom burden	0.34*	0.31*	0.31*	-	1.00

*** Significant at $p < .0001$

** Significant at $p < .01$

* Significant at $p < .05$

Table 5

Number (Percentage) of Patients Endorsing Neuropathic Pain Descriptors as a Function of Pain in the Hands and Feet

Descriptor	With Pain	Without Pain	<i>p</i>
Stabbing	11 (29.7%)	1 (5.6%)	.08
Tingling	29 (78.4%)	12 (66.7%)	.35
Burning	18 (48.6%)	4 (22.2%)	.08
Numb	29 (78.4%)	8 (44.4%)	.01 *
Shooting	13 (35.1%)	1 (5.6%)	.02 *
Electric	12 (32.4%)	1 (5.6%)	.04 *

* Significant at $p < .05$

Table 6

Symptom Burden Subscale Mean (Standard Deviation) as a Function of Pain in the Hands and Feet

Subscale	<u>With Pain</u>	<u>Without Pain</u>	<i>p</i>
Severity	34.56 (23.85)	26.24 (22.97)	.24
Interference	20.67 (16.03)	16.29 (13.96)	.37