	Painful diabetic neuropathy	Painless diabetic neuropathy	P
Number of participants	14	12	
Age, y	60.5 (54.2-71.9)	63.5 (57.8-73)	0.44
Male	11 (78.6%)	9 (75%)	0.83
HbA1c, %	8.3 (7.2-9.3)	6.9 (6.3-8.4)	0.09
[mmol/mol]	[67 (55-76)]	[52 (45-68)]	
Type 2 diabetes	13 (93%)	12 (100%)	0.99
Duration of diabetes, y	10 (8.4 -14.6)	13.9 (10.6 -21.1)	0.08
BMI, kg/m^2	29.2 (27.5 -34.4)	30.5 (27.6-34.4)	0.59
Waist-hip circumference ratio	0.99 (0.94-1.03)	0.96 (0.88-1.07)	0.46
Ethnicity			
Caucasian	14 (100%)	12 (100%)	0.99

Supplementary table 1

A summary of the key demographic details and blood results of the participants that were scanned in the study (Mann-Whitney U Test; *$p<0.05$). Data is shown as the median (intra-quartile range).

	Painful diabetic neuropathy	Painless diabetic neuropathy	P
Number of participants	14	12	
Analgesic use			
Participants reported analgesic drug use	7	2	0.11
Paracetamol	3	0	0.22
NSAIDS	4	1	0.33
Antidepressants			
Tricyclic Antidepressants (amitriptyline, nortriptyline, imipramine)	2	1	0.99
SNRI (duloxetine)	1	0	0.99
Gabapentanoids			
Gabapentin	2	0	0.48
Pregabalin	2	1	0.99
Topical lidocaine patches	0	0	
Tramadol	0	0	
Opioids			
Weak (codeine)	1	0	0.99
Strong (fentanyl patches, oral morphine)	0	0	
Reported drug use	14	12	
All oral hypoglycaemic agents			
Metformin	12	11	0.99
Other Oral hypoglycaemic (Gliclazide)	6	7	0.70
Insulin	6	5	0.99
Other agents (Sitagliptin, Pioglitazone, Exanatide, Linagliptin)	3	4	0.70
Statin	14	7	**< 0.05**
Aspirin	2	6	0.09
Anti-Hypertensives			
ACE-I/ARB	5	11	**<0.01**
Diuretic	1	1	0.99
B-blocker	0	4	**<0.05**
Calcium channel blocker	4	3	0.67
Thyroxine	1	0	0.99
PPI	2	3	0.99

Supplementary table 2

A summary of the pharmacotherapy usage for all the participants in the study (NP+: painful diabetic neuropathy; Non-NP: painless diabetic neuropathy). Categorical data were analyzed using the Fischer's exact test (*$p<0.05$). Abbreviations: NSAIDS – Non-steroidal anti-inflammatory drugs; SNRI – Serotonin-noradrenergic reuptake inhibitor; ACE-I- Angiotensin converting enzyme inhibition, ARB – Angiotensin receptor blocker; B-blocker – Beta Blocker; PPI – Proton pump inhibitor

	Painful diabetic neuropathy	Painless diabetic neuropathy	P
TCSS Total Score	7.5 (5.3-10)	6.5 (3.3-9)	0.49
TCSS Symptom sub-score	2 (1.8-3)	1 (0.3-2)	**< 0.05**
TCSS Examination sub-score	5 (2.8-8)	5.5 (2-7.8)	0.94
MRC Sensory Sum Score	3.5 (1.5-6.3)	1 (0-3.5)	0.15
IENFD (fibres/mm)	1.1 (0.2-1.6)	1.4 (0.1-1.7)	0.40
Sural nerve			
Amplitude (μV)	3.8 (0-5.4)	4.3 (0.4-6.3)	0.74
Conduction velocity (m/s)	39.2 (37.6-44.6)	46.4 (40.4-50.8)	0.11
Peroneal nerve			
Amplitude (mV)	2.2 (1.2-3.4)	4.4 (2.9-6.4)	**< 0.01**
Conduction velocity (m/s)	38.7 (34.8-41.3)	40.9 (37.7-47.1)	0.09

Supplementary table 3

A summary of clinical scores, IENFD and electrophysiological recordings from lower limbs for all the participants in the study (NP+: painful diabetic neuropathy; Non-NP: painless diabetic neuropathy). Apart from the TCSS symptom sub-score and peroneal nerve amplitude there were no differences between the two groups. Data is shown as the median (interquartile range) and was analyzed by Mann-Whitney U Test ($p<0.05$). Significant differences between the groups are in bold. Abbreviations: TCSS – Toronto Clinical Scoring System, MRC-Medical Research Council, IENFD – Intraepidermal nerve fibre density

	Painful diabetic neuropathy	Painless diabetic neuropathy	P
API	4.7 (2.7-6.7)	N/A	
DN4	5 (4-7)	1 (0-2.8)	**< 0.01**
painDETECT	14 (8.5-21.5)	1.5 (0-3.5)	**< 0.01**
BPI Pain Severity	4.3 (2.6-6)	1.2 (0.1-2)	**< 0.01**
NPSI Total	14.3 (9.5-22.3)	N/A	
NPSI Deep Spontaneous Pain	0.5 (0-3)	N/A	
NPSI Superficial Spontaneous Pain	4 (0-7.3)	N/A	
NPSI Evoked Spontaneous Pain	1.8 (0-4)	N/A	
NPSI Paraesthesia	5.8 (1.9-9)	N/A	
NPSI Paroxysmal Pain	2.8 (0-7.1)	N/A	

Supplementary table 4

A summary of the neuropathic pain screening scores (NP+: painful diabetic neuropathy; Non-NP: painless diabetic neuropathy). Data shown as median (interquartile range) and analyzed by Mann-Whitney U Test (*$p<0.05$). Significant differences between the groups are in bold. Abbreviations: API – Seven-day pain diary; DN4 - Douleur Neuropathique en 4 Questions; BPI – Brief Pain Inventory; NPSI – Neuropathic Pain Symptom Inventory

	Painful diabetic neuropathy	Painless diabetic neuropathy	P
BPI Pain Interference	4.1 (2.4-6.1)	0.3 (0-1.4)	**< 0.01**
PCS Rumination	3.5 (0.8-10.3)	0 (0-6.3)	0.11
PCS Magnification	2.5 (1-4)	1 (0-2)	0.10
PCS Helplessness	4 (1.8-12)	0.5 (0-5)	**< 0.05**
PCS Total	11 (3.8-24)	3 (0-13.8)	**< 0.05**
DAPOS Depression	7.5 (5-12.5)	5.5 (5-9.5)	0.22
DAPOS Anxiety	3 (3-7)	3 (3-3.75)	0.26
DAPOS Positive Outlook	11 (7-13.3)	13 (10-15)	0.21
PASS20 Cognitive	6.5 (2.8-11.3)	3 (0-7.8)	0.08
PASS20 Escape-avoidance	4.5 (2-9.5)	2.5 (0.3-3.8)	0.06
PASS20 Fear	3 (0.8-7.3)	0 (0-1)	**< 0.01**
PASS20 Physiological Anxiety	1 (0-4)	0	**< 0.05**
PASS Total	14 (7.8-35)	5.5 (2.3-14)	**< 0.05**
SAS Symptom Score	10.5 (4.5-11.5)	4.5 (2.3-6.8)	**< 0.05**
SAS Total Impact Score	3 (2-4)	2 (1.3-3)	0.18
ISI Total	16.5 (7.5-18.5)	4 (0-7)	**< 0.01**
SF-36 Physical Functioning	65 (42.5-90)	85 (57.5-100)	0.12
SF-36 Role Physical	87.5 (0-100)	100 (100-100)	0.08
SF-36 Bodily Pain	46.5 (28.8-72)	78 (53.8-84)	**< 0.05**
SF-36 General Health	43.5 (34.3-60.5)	62 (39.5-72)	0.11
SF-36 Vitality	40 (20-51.3)	65 (53.8-80)	**< 0.01**
SF-36 Social Functioning	62.5 (46.9-90.6)	100 (100-100)	**< 0.01**
SF-36 Role Emotional	100 (33.3-100)	100 (33.3-100)	0.88
SF-36 Mental Health	64 (50-77)	84 (64-100)	**< 0.05**

Supplementary table 5

A summary of the scores for quality life measures, depression, anxiety, insomnia and autonomic symptom abnormalities for all the participants (NP+: painful diabetic neuropathy; Non-NP: painless diabetic neuropathy). All data is presented as the median (interquartile range). Data were analyzed by Mann-Whitney U test (*$p<0.05$). Significant differences between the groups are in bold. Abbreviations: BPI – Brief Pain Inventory; DAPOS - Depression, Anxiety, and Positive Outlook Scale; PCS – Pain Catastrophizing Scale; PASS-20 – short form of Pain Anxiety Symptoms Scale; SAS - Survey of Autonomic Symptoms; ISI – Insomnia Severity Index; SF-36 -Short Form 36 of the MOS Outcomes Study