Supplementary Table 1A. The search strategy used in the review - main search

Query	Keywords/ descriptors	PubMed	Cochrane	Embase	PsycINFO	Web of Science	Science Direct	PsycARTICLES	Scopus	Academic Search Ultimate
#1.	pain[1, 2, 4, 5, 6, 7, 8, 9] 'pain'/exp OR pain[3]	975451	226688	1978696	122946	879180	1,000,000+	2614	249362	462873
#2.	electric stimulation OR noxious electric stimulation OR electrocutaneous stimulation OR electric stimuli OR noxious electric stimuli OR electrocutaneous stimuli OR electrical stimulation OR noxious electrical stimulation OR electrical stimuli OR noxious electrical stimuli [1, 2, 4, 5, 7, 8, 9] 'electric stimulation'/exp OR 'electric stimulation' OR (electric AND ('stimulation'/exp OR stimulation)) OR 'noxious electric stimulation' OR (noxious AND electric AND ('stimulation'/exp OR stimulation)) OR 'electrocutaneous stimulation' OR (electrocutaneous AND ('stimulation'/exp OR stimulation)) OR 'electric stimuli' OR (electric AND stimuli) OR 'noxious electric stimuli' OR (noxious AND electric AND stimuli) OR 'electrocutaneous stimuli' OR (electrocutaneous AND stimuli) OR 'electrical stimulation'/exp OR 'electrical stimulation' OR (electrical AND ('stimulation'/exp OR stimulation)) OR 'noxious electrical stimulation' OR (noxious AND electrical AND ('stimulation'/exp OR stimulation)) OR 'electrical stimuli' OR (electrical AND stimuli) OR 'noxious electrical stimuli' OR (noxious AND electrical AND stimuli) [3] electric stimulation OR noxious electric stimulation OR electrocutaneous stimulation OR electric stimuli [6]	201819	15632	175389	31009	126518	1,000,000+	812	40300	29584
#3.	healthy participants OR healthy subjects OR volunteers[1, 2, 4, 5, 6, 7, 8, 9] (healthy AND participants OR healthy) AND subjects OR volunteers[3]	530719	158486	561487	73484	594062	242,326	1912	1417340	214784
#4.	#1 AND #2 AND #3	1865	1030	1962	542	1884	13,035	8	2801	624
#5.	#4**	785	886	159	527	1812	98	164	1722	-
#6.	#5^	763	886	144	527	1786	98	164	1697	619

Articles published on or before 2022

Supplementary Table 1B. The search strategy used in the review - additional search

Query	Keywords/ descriptors	PubMed	Cochrane	Embase	PsycINFO	Web of Science	ScienceDirect	PsycARTICLES	Scopus	Academic Search Ultimate
#1.	pain[1, 2, 4, 5, 6, 7, 8, 9] 'pain'/exp OR pain[3]	1 051 335	253 076	2 167 758	129 762	967 592	1 000 000+	17 303	2 788 376	502 184
#2.	electric stimulation OR noxious electric stimulation OR electrocutaneous stimulation OR electric stimuli OR noxious electric stimuli OR electrocutaneous stimuli OR electrical stimulation OR noxious electrical stimulation OR electrical stimuli OR noxious electrical stimuli [1, 2, 4, 5, 7, 8, 9] 'electric stimulation'/exp OR 'electric stimulation' OR (electric AND ('stimulation'/exp OR stimulation)) OR 'noxious electric stimulation' OR (noxious AND electric AND ('stimulation'/exp OR stimulation)) OR 'electrocutaneous stimulation' OR (electrocutaneous AND ('stimulation'/exp OR stimulation)) OR 'electric stimuli' OR (electric AND stimuli) OR 'noxious electric stimuli' OR (noxious AND electric AND stimuli) OR 'electrocutaneous stimuli' OR (electrocutaneous AND stimuli) OR 'electrical stimulation'/exp OR 'electrical stimulation' OR (electrical AND ('stimulation'/exp OR stimulation)) OR 'noxious electrical stimulation' OR (noxious AND electrical AND ('stimulation'/exp OR stimulation)) OR 'electrical stimuli' OR (electrical AND	207 301	17 471	185 068	31 599	135 839	262 254	1 582	43 008	32 531

	stimuli) OR 'noxious electrical stimuli' OR (noxious AND electrical AND stimuli) [3] electric stimulation OR noxious electric stimulation OR electrocutaneous stimulation OR electric stimuli [6]									
#3.	healthy participants OR healthy subjects OR volunteers[1, 2, 4, 5, 6, 7, 8, 9] (healthy AND participants OR healthy) AND subjects OR volunteers[3]	563 857	155 941	589 810	77 332	640 462	1 000 000+	13 715	1 549 314	227 880
#4.	#1 AND #2 AND #3	1 941	1139	2 043	562	1 985	13 854	138	3 092	640
#5.	#4**	20	54	15	10	79	397	8	107	24
#6.	#5^	20	54	15	10	79	397	8	104	24

Article published between 2022 and 2024

[1]PubMed; [2]Cochrane; [3]Embase; [4]PsycINFO; [5]Web of Science; [6]ScienceDirect; [7]PsycARTICLES; [8]Scopus; [9]Academic Search Ultimate;

**Filters:

PubMed = Clinical Study, Clinical Trial, Comparative Study, Controlled Clinical Trial, Evaluation Study, Multicenter Study, Overall, Randomized Controlled Trial, Humans

Cochrane Library =Word variations have been searched; Trials

Embase = ('clinical trial'/de OR 'comparative study'/de OR 'controlled clinical trial'/de OR 'controlled study'/de OR 'human'/de OR 'randomized controlled trial'/de) AND 'article'/it AND [embase]/lim NOT [medline]/lim

PsycINFO = Zastosuj powiązane słowa, Przeszukuj również pełny tekst artykułów, Stosowanie równoważnych tematów, Human

Web of Science = proceeding paper, early access, article

ScienceDirect = Research articles

PsycARTICLES = Zastosuj powiązane słowa, Przeszukuj również pełny tekst artykułów, Stosowanie równoważnych tematów, Czasopisma naukowe (recenzowane naukowo), Human

Scopus = Article, Human

Academic Search Ultimate none

^English;

Stimulation applied in a different method/to a different location than specified in the inclusion criteria

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Supplementary Table 3 A detailed description of the studies included in the review

Articles	Type of study	Sample size	Methods used for calibration	What instructions were given to the participants	Stimuli details (e.g., single stimulus, series of stimuli)	Length of the stimuli	Length of the inter-stimulus interval	Total number of stimuli per calibration	Repetition of the calibration procedure	Length of the intervals between successive parts of the calibration	Mean pain ratings / target during calibration	Mean pain ratings during pretest/baseline	Type of pain assessment scale (e.g., VAS, NRS, VRS, VNS)	Calibration stimuli vs experiment/manipulation stimuli?	Additional commentary
[32]	single-arm	26 (11 males)	increasing calibration	**no data**	single pulse	2 ms	**no data**	different for each participant	no	n/a	target was 4/10 “just beginning to feel pain”	**no pretest/baseline**	VRS ranging from 0 (“no feeling”) to 10 (“the most intense pain imaginable”)	**no data**	The calibration was increased by 0.5 mA.
[41]	single-arm	21 (11 males)	the method of limits (increasing and decreasing)	participants were asked to press a button when they became aware of the presence or absence of the stimulus	single pulse	2 ms	**no data**	differently for each participant	3 times	**no data**	target: 10 times the perception threshold or a minimum of 1.5 mA	**no pretest/baseline**	no scale	**no**	The average of three upper (amplitude increased 5% from the sensed stimulus) and three lower (amplitude decreased 5% from the sensed stimulus) values was calculated as the perception threshold.
[73]	randomized	39 (22 males)	increasing calibration	**no data**	**no data**	**no data**	**no data**	differently for each participant	no	n/a	target was 5/10	**no data**	VRS ranging from 0, indicating “no pain”, to 10, indicating “extreme pain”	**no data**	The electrical stimulus intensity started at 1 mA and was incrementally increased by 0.1 mA until moderate pain was reported (pain level of 5 on a 0-10 scale).
[15]	randomized	60 (28 males)	increasing calibration	participants were asked to inform the experimenter as soon as they started to feel any sensation	**no data**	200 µs	5 s	differently for each participant (mean number = 14)	2 times	**no data**	tactile sensation (t)	**no data**	NRS ranging from 0 = “no pain” to 10 = “maximum imaginable pain”	**no data**	Calibration with increasing intensity increased by 1 ma, starting at 0.
											the pain threshold (T)				The stimuli of increasing intensity were applied until the participant signaled that he or she had started to feel pain (T)
											2T				The mean intensity of the pain threshold was doubled (2T) and used in the testing phase.
[14]	randomized	26 (10 males)	an adaptive staircase approach (increasing calibration)	participants were informed that the electrical stimulus would “feel like a very tiny pinprick”. participants were asked to say “yes” if they felt it, even slightly	single stimuli	2 ms	**no data**	differently for each participant	**no data**	**no data**	target: 10 times the electrical detection threshold	**no data**	no scale	**no**	The stimulus was calibrated to their individual electrical detection threshold on both arms.
															The intensity started at 0 and slowly increased in 0.1 mA increments until the participants reported that they could feel the electrical stimulus.

[58]	single-arm	67 (22 males)	the method of limits (increasing and decreasing)	**no data**	single pulses	* 2 ms	* 9s	differently for each participant	no	n/a	target: 10 times this detection threshold	**no pretest/baseline**	NRS extending from 0—not felt at all—to 100—maximal pain—, 50 being defined as the transition from a non-painful stimulation to a painful one	**no**	Starting from 0.4 mA, the intensity of the electrical stimulus was gradually decreased or increased by steps of 0.01 mA, depending on whether the stimulus was perceived or not, up to several reversals around a stable value that was considered as the absolute detection threshold. Stimuli were delivered at an intensity corresponding to 10 times this detection threshold.
[22]	randomized	88 (44 males)	increasing calibration	**no data**	**no data**	**no data**	5 s	differently for each participant	2 times	**no data**	target: detection thresholds (dt) and the value between the detection (dt) and pain thresholds (pt): dt + 0.75(pt–dt and dt+0.5(pt-dt)	0.1 (0.00–0.33); 0.03 (0.00–0.27); 0 (0.00–0.20); 0.13 (0.00–0.20)	**no data**	**no**	A series of electrical pulses of increasing intensity was provided (starting from 0 mA, increasing by 1 mA) until dt and pt were reached, which stopped the stimuli application. Calibration procedure was carried out twice and the obtained results were averaged. The intensity of the innocuous stimuli was calculated using the following formulas: I. dt + 0.75(pt–dt), II. dt+0.5(pt-dt) and III. dt (formulas no. I and no. II were 75% and 50% of the distance between the dt and pt, respectively; formula no. III was equal to dt). The most sensitive participants (those in whom the calibration was not successful) were excluded from the study.
[44]	single-arm	16 (7 males)	**no data**	**no data**	**no data**	10 ms	**no data**	**no data**	**no data**	**no data**	target: 7/10 (smax) to define 4 stimulation intensities by varying the pulse amplitude to 25% (“level 1”), 50% (“level 2”), 75% (“level 3”) and 100% (“level 4”) of smax	**no data**	VAS from 0 to 10	**no data**	Lots of missing data, not sure how the pain was calibrated on 7/10
													not clear what kind of scale		

[76]	single-arm	35 (13 males)	increasing calibration	**no data**	**no data**	4-10 ms (differently for each participant)	**no data**	differently for each participant	**no data**	**no data**	target: 25 and 75 on 100	**no pretest/baseline**	from 0 (not painful at all) to 100 (worst pain imaginable), with a rating of 50 representing the painfulness threshold	**no data**	Calibration started with 0.2 mA and increased in steps of 0.2 mA.
[23]	randomized	157 (73 males)	**no data**	**no data**	**no data**	500 ms	**no data**	differently for each participant	3 times	**no data**	target: pain threshold (1 on NRS)	nh 2.59 (0.27); ne 3.01 (0.25); p5 2.43 (0.22); p15 2.52 (0.21); p30 2.59 (0.24); n5 2.46 (0.22); n15 2.78 (0.23); n30 3.23 (0.27);	NRS (0 representing no pain; 1, the beginning of a painful sensation; 5, moderate; and 10, unbearable pain)	**no data**	Pain threshold was determined as the average of 3 measurements.
[20]	single-arm	24 (10 males)	a staircase procedure (ascending and descending)	**no data**	single stimuli	2 ms	**no data**	differently for each participant	6 times (three ascending and three descending)	**no data**	target: 20 x detection threshold	**no pretest/baseline**	**no data**	yes	A staircase procedure with three ascending and descending staircases of single stimuli. The final electrical detection threshold was the geometric mean of the three series. The order with which the electrical detection thresholds were determined for each electrode was counterbalanced across participants. The single electrical stimuli were delivered at an intensity of 10 times the electrical detection threshold.
[72]	randomized	60 (30 males)	the method of limits (increasing and decreasing)	**no data**	single stimuli	2 ms	**no data**	differently for each participant	4 times (two ascending and two descending)	**no data**	target: 10 x detection threshold	**no pretest/baseline**	no scale	**no**	The stimulus intensity, starting at 0.1 mA, increased in steps of 0.1 mA until the participant perceived the stimulus, and then decreased in steps of 0.05 mA until the stimulus was no longer perceived. This procedure was then repeated. Stimulus intensity was defined as the geometric mean of the four measurements and then determined hfs as its 10 times.
						80 ms					3/9				Calibrations were manipulated via

[47]	randomized	247 (? males)	ascending calibration (1 ascending current voltage, 2 ascending time)	**no data**	**no data**	80 ms to 800 ms (increasing in sequence at multiples of 80 ms)	**no data**	differently for each participant	no	n/a	3/9, 5/9, 7/9	**no data**	NRS, 1 a little pain, 5 moderate pain, and 9 unbearable pain	**no**	ascending voltage of the electric currents with a fixed delivering duration of 80 ms. Once the low, moderate and high pain levels for each participant were determined, the participants were tested for rating response consistency. A random sequence of three low- and three high-intensity pain stimuli was administered.
[1]	single-arm	12 (7 males)	increasing calibration	**no data**	series of stimuli (4)	2 s	8 s	differently for each participant	**no data**	**no data**	1 mA less than stimulus inducing pain of 10/10 or 3 mA greater than the intensity reaching the angle of maximum voluntary movement of the wrist	**no pretest/baseline**	11-point ranging from 0 (no pain) to 10 (unbearable pain).	yes	From 1 mA to endurable value.
[59]	single-arm	16 (? males)	**no data**	**no data**	**no data**	10 ms	**no data**	**no data**	**no data**	**no data**	target: 7/10 (and determining 25%, 50%, 75% and 100% based on it)	**no pretest/baseline**	11-point VAS (0-no pain – 10 – worst pain imaginable) with scale numbers, colours and icons of face expressions	**no data**	Lots of missing data, not sure how the pain was calibrated on 7/10.
[46]	randomized	29 (? males)	increasing calibration	**none** (subjects were informed that they would receive electrical stimuli but were not informed about the electrical stimulation protocol)	**no data**	**no data**	random interstimulus interval of 10 to 10 seconds	during each study condition, a total of 45 stimuli were given	no	n/a	pain thresholds	**no pretest/baseline**	**no data** in both measurements, each participant indicated when the stimulus was unpleasant, slightly painful (similar to a pinprick)	**no data**	Electrical stimulation was initiated at 1 mA and was increased by 1 mA for each consecutive stimulus.
			increasing calibration by random increments								150% pain thresholds				During a second measure, the stimulation was increased by random increments for each consecutive stimulus. In both measurements, each participant indicated when the stimulus was similar to a pinprick (unpleasant, slightly painful). The stimulus intensity was 150% of the average of both pain thresholds
															Calibration using steps of approximately 0.01 mA.

[29]	single-arm	25 (9 males)	the method of limits	**no data**	series of stimuli (5)	1 s	10 s	differently for each participant	if the sensations/intensities could not be matched the entire procedure was restarted.	n/a	target: 10 times the detection threshold	**no pretest/baseline**	**no data**	yes	After having determined detection thresholds, participants were asked to report whether the sensation and intensity of a single pulse were perceived as similar for both forearms. If the percept differed between the two forearms, the intensity of the stimulation was adjusted by slightly increasing or decreasing the intensity of the electrical pulses until the perceived sensation/intensity was matched between both forearms.
[7]	randomized	31 (18 males)	increasing calibration	**no data**	series of stimuli (3)	**no data**	15 s	differently for each participant	no	n/a	target: ≥5/10	4.19	VNS, from 0 - no pain to 10 - the worst pain imaginable	**no data**	The applied current was started at 0 mAmps and progressively increased. At 10-mAmp intervals until the pain was reported as 5 or higher.
[9]	randomized	87 (0 males)	ascending calibration	**no data**	series of stimuli	* 200 μs	**no data**	differently for each participant	2 times	**no data**	targets: tactile threshold (t), threshold (T), 2.2 T and 1.5 T	**no pretest/baseline**	**no data**	**no data**	Calibration was increased by 0.5 mA. The average T value was used to calculate the intensity of the pain stimulus that was to be paired with the nocebo stimulus (2.2 T mA), as well as the pain stimulus that was to be paired with the control stimulus (1.5 T mA).
[27]	single-arm	50 (41 males)	increasing calibration	**no data**	**no data**	**no data**	**no data**	differently for each participant	no	n/a	pain threshold pain tolerance	no data 5.3 (2.6)	VAS (1-10)	**no data**	Calibration was increased until the participant verbally tells the moment when the pain first felt. Subsequently, the level
[52]	single-arm	40 (20 males)	increasing calibration	subjects were asked to verbally rate each electric stimulus	series of stimuli (50)	* 1 ms	* 4 ms	differently for each participant	2 times	**no data**	target: intensity corresponding to a rating of 4 on a 5-point scale	**no pretest/baseline**	5- point numerical rating scale (“1 - barely noticeable”, “2 - clearly noticeable but not unpleasant”, “3 - barely unpleasant”, “4 - quite unpleasant” to “5 - very unpleasant”	**no data**	The first electric stimulus was delivered with an intensity of 0.5 mA. Intensity was increased in steps of 0.5 mA until subjects rated the electric stimulus with “4 - quite unpleasant” or until the maximum of 5 mA was reached. This procedure was repeated one more time, resulting in two runs. Later applied an intensity corresponding to a rating of "4 – “quite unpleasant" from the second measurement.
[69]	single-arm	18 (7 males)	**no data**	**no data**	* five trains	* 1 s	* 10 s	**no data**	**no data**	**no data**	target: 20 times the absolute detection threshold	**no pretest/baseline**	**no data**	**no data**	Lots of missing data.
[63]	non-randomized	49 (9 males)	increasing calibration	participants were instructed to pay close attention to the pain stimulus when judging its intensity.	**no data**	**no data**	**no data**	**no data**	**no data**	**no data**	target: moderately intense pain and ‘low intense pain’ stimulus (second stimulus was derived from the moderately intense pain stimulus using the	**no pretest/baseline**	a scale ranging from “no pain”, "little pain", "moderate pain", "intense pain", "enormous pain" and "unbearable pain"	**no data**	Calibration started at 0.5 mA and increased in steps of 0.5 mA. The intensity of the electroctaneous stimulus increased until participants reported that the pain stimulus they received was of moderate pain on a scale.

										formula)				Lots of missing data.
[48]	single-arm	19 (8 males)	increasing calibration	**no data**	**no data**	1 ms	10 s	differently for each participant	**no data**	**no data**	target: 25% and 75% of unbearable intensity	**no pretest/baseline**	**no data**	**no**	Participants received increasing electrical shock starting from 1 mA with increments of 1 mA until participants felt unbearable.
[78]	single-arm	18 (7 males)	ascending method of limits	**no data**	single stimuli and series of stimuli	* 0.5 ms	**no data**	differently for each participant	no	n/a	target: 2 stimulus magnitudes (1 painful, 1 non-painful) for stim1 and 8 stimulus magnitudes (4 painful, 4 non-painful)	**no pretest/baseline**	VAS (0-100) (anchored at left with "no pain" and at right with "unbearable pain")	**no data**	The ascending method of limits approach was employed to define the detection threshold and pain threshold. the average of the detection threshold and pain threshold was defined as stim1 for non-pain trials.
			stimulus with a series of stimuli (ascending or descending)					same for each participant							Each trial comprised the stim1 followed by a second non-painful stimulus, which consisted of an ascending or descending series of stimuli (starting from stim; step: 0.3 ma). Two stimulus magnitudes corresponding to the 10th and 90th percentile between stim1 and lownon-pain, and another two stimulus magnitudes between stim1 and highnon-pain, were estimated by linear interpolation.
															The third and fourth steps followed the first and second steps except that stim1 = 50-75 on 100 was measured and defined as the stimulus intensity of stim1 for pain trials, which was followed by two series of pain delayed discrimination trials.
[57]	single-arm	24 (12 males)	increasing calibration	**no data**	**no data**	* 1 ms	5 s	differently for each participant	3 times	differently for each participant	target: pain perception (pp), 150% pp and 180% pp	**no pretest/baseline**	no scale	**no**	The stimulus value was estimated as the average of three trials. The current was increased from a baseline of 0.5 mA in steps of 0.1 mA until the participants reported the stimulation to be painful.
[45]	single-arm	18 (5 males)	**no data**	**no data**	* five trains	* 1 s	* time interval between each train was 10 s	**no data**	**no data**	**no data**	target: 20 times the detection threshold to a single pulse	**no pretest/baseline**	**no data**	*	No detailed description of the calibration procedure allowing to replicate it.
[12]	randomized	419 (187 males)	the method of limits (ascending series)	**no data**	**no data**	**no data**	5 s	differently for each participant	2 times	**no data**	target: tactile and pain thresholds	**no data**	no scale	**no data**	To become accustomed to electrocutaneous stimulation, each participant received the same set of 10 electrical stimuli, ranging from 5 mA to 50 ma, delivered every 5 seconds.
															Two ascending series of electrocutaneous stimuli in increments of 1 mA, starting from 0 mA.

														The obtained values were then averaged separately for tactile (t) and pain thresholds (T) and were used to calculate stimuli at 3 levels of intensity: moderate, low, and high.
[21]	single-arm	20 (10 males)	a staircase procedure (ascending and descending staircases)	**no data**	single stimulus	2 ms	**no data**	differently for each participant	3 times (ascending and descending)	**no data**	target: 10 times the electrical detection threshold	**no pretest/baseline**	no scale	**no**	Each participant was first familiarized with the experimental procedures by receiving a description of the general set-up and the stimuli that they would receive. The final electrical detection threshold was the geometric mean of the three series.
[16]	randomized	60 (24 males)	ascending calibration	**no data**	series of stimuli	**no data**	5 s	differently for each participant	2 times	differently for each participant	target: tactile sensation threshold and pain threshold	**no pretest/baseline**	no scale	**no data**	The intensity of the stimuli was increased by 1 mA. The stimulus intensity for the rest of the experiment was calculated as a doubled mean of the pain threshold.
[70]	single-arm	60 (21 males)	a staircase procedure (increasing and decreasing)	**no data**	**no data**	* 0.5 ms	**no data**	differently for each participant	4 times	**no data**	target: 2 x detection threshold	**no pretest/baseline**	no scale	**no data**	Calibration started from 0.1 mA and increased by 0.1 mA until the first stimulus was detected. Then, the intensity was lowered until no longer perceived, and then increased again. the threshold was established after 3 reversals. The intensity used during the experiments was twice the detection threshold.
[19]	single-arm	14 (9 males)	the method of limits	**no data**	single stimulus	* 1 s	* 10 s	**no data**	**no data**	**no data**	target: 20 times the detection threshold of a single pulse	**no data**	**no data**	**no**	The intensity of stimulation was individually adjusted to 20x the absolute detection threshold to a single pulse.
[11]	randomized	96 (36 males)	ascending calibration	**no data**	**no data**	**no data**	5 s	differently for each participant	2 times	**no data**	target: sensation threshold and pain thresholds	**no pretest/baseline**	no scale	**no data**	The calibration procedure started at 0 mA and increased in 0.5 mA steps. The mean of the two measurements of pain thresholds was calculated and the result subsequently doubled to establish the stimulus intensity that was used throughout the experiment.
[10]	randomized	99 (0 males)	the method of limits (ascending)	**no data**	**no data**	**no data**	5 s	differently for each participant	2 times	**no data**	target: sensation threshold and pain thresholds	**no pretest/baseline**	no scale	**no data**	The calibration procedure started at 0 mA and increased in 0.5 mA steps.
[33]	randomized	70 (24 males)	the staircase procedure	**no data**	single stimulus	2 ms	**no data**	**no data**	**no data**	**no data**	target: 20 times the detection threshold to a single pulse	**no pretest/baseline**	**no data**	**no data**	No detailed description of the calibration procedure allowing to replicate it.

[18]	single-arm	14 (7 males)	the staircase procedure	**no data**	single stimulus	* 1 s	* 10 s	differently for each participant	**no data**	**no data**	target: 20 times the detection threshold to a single pulse	**no pretest/baseline**	no scale	**no data**	The intensity of stimulation was individually adjusted to 20 times the absolute detection threshold to a single pulse.
[75]	single-arm	28 (14 males)	ascending calibration	**no data**	series of stimuli	**no data**	5 s	differently for each participant	3 times	**no data**	target: tactile sensation and the pain threshold	**no pretest/baseline**	no scale	**no data**	The intensity of the pain stimulus was fixed for the whole experiment and was set to 2 T mA (T stands for pain threshold) for each participant. The calibration procedure started at 0 mA and increased in 0.5 mA steps. The averaged value for pain threshold was calculated to determine stimulus intensity for the testing phase of the experiment.
[17]	single-arm	75 (38 males)	the staircase procedure	**no data**	**no data**	2 ms	**no data**	differently for each participant	**no data**	**no data**	target: 20 times the detection threshold of a single pulse	**no pretest/baseline**	no scale	**no**	The intensity of stimulation was individually adjusted to 20 times the absolute detection threshold to a single pulse.
[66]	randomized	56 (0 males)	increasing and decreasing calibration	participants were informed that the experiment was targeting a score of 7 (‘moderate pain’) on the NRS and that 10 on the scale indicated the intensity that they did not want to receive anymore	**no data**	**no data**	10 s	differently for each participant	no	n/a	target: 7/10 on NRS	**no pretest/baseline**	NRS ranging from 0 –“no pain”, to 10 –“the strongest pain ever”	**no**	The calibration procedure started at 0 mA and increased in 1 mA steps to the value at which an NRS score of 7 was obtained. Next, the intensity of electrical stimuli was decreased (0.5 per step) to an NRS score of 6 and next increased until again a value of 7 on the NRS was obtained. The average of the three values of the individually scored stimulus intensity that was rated as a 7 on the NRS was used as painful stimulus during the experiment.
[3]	randomized	75 (0 males)	increasing calibration	**no data**	**no data**	**no data**	5 s	differently for each participant	2 times	**no data**	target: tactile sensation and the pain threshold -> 2T	For placebo condition: G1: 4.17, G2: 4.32, G3: 3.97. For non-placebo condition: G1: 4.27, G2: 4.44, G3: 3.69	no scale	**no data**	The intensity of the pain stimulus was fixed for the whole experiment and was set to 2 T mA (T stands for pain threshold) for each participant. The calibration procedure started at 0 mA and increased in 0.5 mA steps.
[49]	single-arm	12 (7 males)	method of limits (ascending and descending series)	**no data**	single stimulus	**no data**	**no data**	differently for each participant	5 times	**no data**	target: 10 x detection thresholds	**no data**	no scale	**no data**	Individual detection thresholds were determined by the geometric mean of five ascending and five descending series of single pulses.

[62]	randomized	121 (49 males)	ascending	**no data**	* series of five pulses	* 0.2 s	0.1 s (3.5 s between series)	differently for each participant	no	n/a	2, 3, 4, 5, 6, 7, and 8 on NRS	4.43 (1.25)	NRS, 0 = “no pain” to 10 = “the most intense pain that is tolerable”	*	The calibration was divided into two parts. First, an ascending series of stimuli in steps of 1 mA starting at 0 mA were delivered to the participant. The stimulation increased until the stimulus reached 99 mA or induced an intensity of pain that was rated by the participant as 9 on the NRS. Second, the resulting function was used to determine stimuli whose intensities correspond to 2, 3, 4, 5, 6, 7, and 8 points on the NRS. Two identical sequences of pseudorandom stimuli were applied: 5–8–5–2–7–4–6–5–4–4–3–5–6–3–6–7
			pseudorandom					16	2 times	**no data**	5 and 6 on the NRS				The polynomial function was used: STIM(N) = aN2 +bN+c, where N is NRS rating, and STIM(N) is the intensity of the stimuli for the NRS rating N.
[53]	randomized	81 (41 males)	staircase procedure (increasing and decreasing)	**no data**	single stimulus	* 2 ms	**no data**	different for each participant	4 times	**no data**	target: 15 times the detection threshold to a single pulse	**no pretest/baseline**	no scale	**no**	Single electro-cutaneous stimuli were presented one by one (starting at 0.1 ma) in an ascending manner (by 0.1 mA) until a stimulus was detected. Then, the stimuli were presented in a descending manner (by 0.5 mA) until a stimulus was no longer perceived, after which the intensity increased again (by 0.25 mA). The threshold was established after three reversals.
[68]	randomized	138 (69 males)	familiarization phase	volunteers were instructed beforehand, in advance to start the electrical current by pressing the button and to let go of the button as soon as the	**no data**	**no data**	**no data**	different for each participant	no	n/a	target: tolerance threshold	**no pretest/baselin**	* NRS from 0 (no pain) to 10 (worst imaginable pain)	**no data**	The electrical current with a ramping rate of 1 mA per second. The current started at 0 mA and the maximum electrical current was limited to 50 mA.
			increasing calibration								Group 1: NRS 6.5 (2.2)				
											Group 2: NRS 7.1 (1.6)				
[71]	randomized	44 (0 males)	increasing and decreasing calibration	**no data**	single stimulus	2 ms	**no data**	different for each participant	4 times	**no data**	20 x the individual detection threshold	**no pretest/baseline**	* VAS from 0 (“not unpleasant at all”) to 100 (“as unpleasantness as possible”)	**no**	Single electrocutaneous stimuli were administered one by one, starting at 0.1 mA with increasing steps of 0.1 mA. Once the stimulus was detected, stimuli were presented in decreasing steps of 0.05 mA until the stimulus was no longer perceived, after which the intensity increased again in steps of 0.025 mA. After three reversals, the detection threshold was established.

[35]	single-arm	20 (11 males)	**no data**	**no data**	**no data**	* 0.5 ms	* 5 ms	**no data**	**no data**	**no data**	threshold about double the threshold but not perceived as uncomfortable or painful mild, moderate, or marked discomfort (NRS 1, 2, and 3) clear pain (NRS 4–10)	**no data**	* NRS	**no data**	Lots of missing data.
[54]	single-arm	30 (2 males)	familiarization phase (ascending series) ascending series random series	**no data**	**no data**	* 1000 ms	**no data**	different for each participant	no	n/a	no pain, moderate pain, and very high pain	**no data**	NRS (0 - no pain at all, 2 - low pain, 4 - moderate pain, 6 - high pain, 8 - very high pain, and 10 - the most intense pain imaginable)	**no data**	The electrical pain calibration procedure consisted of three steps. Step 1 was the familiarization phase. Participants received an ascending series of electrical stimuli, starting at 0.5 mA and increasing with steps of 0.5 mA. Participants indicated verbally the first time they felt the stimulation (perception threshold), when the stimulation first became painful (pain
[28]	single-arm	12 (6 males)	increasing calibration	**no data**	single stimulus	* 0.2 ms	**no data**	different for each participant	**no data**	**no data**	detection threshold, pain threshold, and pain 4/10 (10 x detection threshold)	**no pretest/baseline**	NRS; 0: no pain, 10: maximum pain	**no**	Single electrical pulses steps of 0.1 mA were applied until the subjects reported electrical sensation, pain, and a pain rating of 4/10, respectively. additionally, each subject was familiarized with the electrical pulses prior to assessment of electrical pain threshold. Mean stimulus intensity during calibration 1.2±0.8 mA. The electrical Test Stimuli was presented as 3 pulses (2ms pulse width) applied at 0.2Hz for repeated at 5min intervals during 15min prior to HFS .
[43]	single-arm	33 (0 males)	staircase procedure (increasing and decreasing)	**no data**	**no data**	**no data**	**no data**	**no data**	4 times	**no data**	10 x detection threshold	**no pretest/baseline**	**no data**	**no data**	A staircase procedure - a low intensity was presented at first and then was gradually increased (1 mv step size) until the participant was able to detect the stimulus. The intensity was then lowered again until the participant was unable to detect the stimulus. The threshold was established after 3 such reversals.
[34]	single-arm	20 (4 males)	method of limits	**no data**	single stimulus	2 ms	**no data**	different for each participant	**no data**	**no data**	20 x the individual detection threshold	**no pretest/baseline**	**no data**	**no**	Mean stimulus intensity during calibration (SD) 0.32 (0.09). Each electrical pulse lasted one second and was delivered in a 10-second interval - in main procedure.
								different for			detection threshold				

[64]	single-arm	23 (11 males)	increasing calibration	**no data**	single stimulus	1 ms	**no data**	each participant	2 times	**no data**	pain threshold 3 on NRS	**no pretest/baseline**	NRS	**no**	Rectangular pulses with increasing intensities (0.2 mA/sec) were applied.

* It is unclear whether the data relates only to the main or the whole procedure (including calibration)