

# Supplementary Information

**Table S1.** Data extracted from controlled trials for the ITT and PP populations.

Study/Article ID	Design	Treatment group (TG)	Control group (CG)	Follow-up time	Pain area	Responder rate/Total Nonresponders ITT population	N/# Responders/PP population
North 2005 (32)	RCT (open-label)	t-SCS	Reoperation	2.9 Yr	Comb. pain	TG: 30.0%/30/9/21 CG: 10.0%/30/3/27	TG: 47.4%/19/9/10 CG: 11.5%/26/3/23
PROCESS: Kumar 2007 (30)	RCT (open-label)	t-SCS	CMM	3 Mo	Leg pain	TG: 53.8%/52/28/24 CG: 8.3%/48/4/44	TG: 56.0%/50/28/22 CG: 9.1%/44/4/40
PROCESS: Kumar 2007 (30)	RCT (open-label)	t-SCS	CMM	6 Mo	Leg pain	TG: 46.2%/52/24/28 CG: 8.3%/48/4/44	TG: 48.0%/50/24/26 CG: 9.1%/44/4/40
PROCESS: Kumar 2007 (30)	RCT (open-label)	t-SCS	CMM	12 Mo	Leg pain	TG: 30.8%/52/16/36 CG: 6.3%/48/3/45	TG: 34.0%/47/16/31 CG: 7.3%/41/3/38
PROCESS: Kumar 2008 (33)	RCT (open-label)	t-SCS	CMM	24 Mo	Leg pain	TG: 32.7%/52/17/35 CG: 2.1%/48/1/47	TG: 37.0%/46/17/29 CG: 2.4%/41/1/40
Turner 2010 (42)	Controlled cohort (open-label)	t-SCS	PCM	6 Mo	Leg pain	TG: 17.6%/51/9/42 CG: 5.1%/39/2/37	TG: 17.6%/51/9/42 CG: 5.3%/38/2/36
Turner 2010 (42)	Controlled cohort (open-label)	t-SCS	PCM	12 Mo	Leg pain	TG: 13.7%/51/7/44 CG: 7.7%/39/3/36	TG: 14.9%/47/7/40 CG: 8.3%/36/3/33
Turner 2010 (42)	Controlled cohort (open-label)	t-SCS	PCM	24 Mo	Leg pain	TG: 13.7%/51/7/44 CG: 12.8%/39/5/34	TG: 16.3%/43/7/36 CG: 14.7%/34/5/29
SENZA-RCT: Kapural 2015 (34)	RCT (open-label)	10 kHz SCS	t-SCS	3 Mo	Back pain	TG: 74.3%/101/75/26 CG: 36.1%/97/35/62	TG: 84.3%/89/75/14 CG: 43.8%/80/35/45
SENZA-RCT: Kapural 2015 (34)	RCT (open-label)	10 kHz SCS	t-SCS	3 Mo	Leg pain	TG: 73.3%/101/74/27 CG: 45.4%/97/44/53	TG: 83.1%/89/74/15 CG: 55.0%/80/44/36
SENZA-RCT: Kapural 2015 (34)	RCT (open-label)	10 kHz SCS	t-SCS	6 Mo	Back pain	TG: 67.3%/101/68/33 CG: 42.8%/97/42/55	TG: 76.4%/89/68/21 CG: 51.9%/80/42/38
SENZA-RCT: Kapural 2015 (34)	RCT (open-label)	10 kHz SCS	t-SCS	6 Mo	Leg pain	TG: 71.3%/101/72/29 CG: 44.9%/97/44/53	TG: 80.9%/89/72/17 CG: 54.4%/80/44/36
SENZA-RCT: Kapural 2015 (34)	RCT (open-label)	10 kHz SCS	t-SCS	12 Mo	Back pain	TG: 69.3%/101/70/31 CG: 42.3%/97/41/56	TG: 78.7%/89/70/19 CG: 51.3%/80/41/39

SENZA-RCT: Kapural 2015 (34)	RCT (open-label)	10 kHz SCS	t-SCS	12 Mo	Leg pain	TG: 69.3%/101/70/31 CG: 42.3%/97/41/56	TG: 78.7%/89/70/19 CG: 51.3%/80/41/39
SENZA-RCT: Kapural 2016 (35)	RCT (open-label)	10 kHz SCS	t-SCS	24 Mo	Back pain	TG: 64.4%/101/65/36 CG: 36.1%/97/35/62	TG: 76.5%/85/65/20 CG: 49.3%/71/35/36
SENZA-RCT: Kapural 2016 (35)	RCT (open-label)	10 kHz SCS	t-SCS	24 Mo	Leg pain	TG: 61.4%/101/62/39 CG: 36.1%/97/35/62	TG: 72.9%/85/62/23 CG: 49.3%/71/35/36
SUNBURST: Deer 2018 (40)	RCOT (open-label)	Burst stim.	t-SCS	3 Mo	Comb. pain	TG: 39.0%/100/39/61 CG: 32.0%/100/32/68	TG: 40.6%/96/39/57 CG: 33.3%/96/32/64
SURF: Bolash 2019 (36)	RCT (open-label)	Externally powered kHz SCS	10 10-1500 Hz	6 Mo	Back pain	TG: 70.0%/50/35/15 CG: 57.1%/49/28/21	TG: 92.1%/38/35/3 CG: 82.4%/34/28/6
PROMISE: Rigoard 2019 (37)	RCT (open-label)	t-SCS + OMM	OMM	6 Mo	Back pain	TG: 13.6%/110/15/95 CG: 4.6%/108/5/103	TG: 16.3%/92/15/77 CG: 4.8%/104/5/99
PROMISE: Rigoard 2019 (37)	RCT (open-label)	t-SCS + OMM	OMM	6 Mo	Leg pain	TG: 30.0%/110/33/77 CG: 8.3%/108/9/99	TG: 35.9%/92/33/59 CG: 8.7%/104/9/95
WHISPER: North 2019 (41)	RCOT (open-label)	≤1.2 kHz subperc. SCS	t-SCS	3 Mo	Comb. pain	TG: 38.6%/70/27/43 CG: 28.6%/70/20/50	N/A*
EVOKE: Mekhail 2019 (38)	RCT (double-blind)	Closed-loop SCS	t-SCS	3 Mo	Comb. pain	TG: 76.1%/67/51/16 CG: 56.7%/67/38/29	TG: 87.9%/58/51/7 CG: 71.7%/53/38/15
EVOKE: Mekhail 2019 (38)	RCT (double-blind)	Closed-loop SCS	t-SCS	3 Mo	Back pain	TG: 74.6%/67/50/17 CG: 53.7%/67/36/31	TG: 86.2%/58/50/8 CG: 67.9%/53/36/17
EVOKE: Mekhail 2019 (38)	RCT (double-blind)	Closed-loop SCS	t-SCS	3 Mo	Leg pain	TG: 74.6%/67/50/17 CG: 64.2%/67/43/24	TG: 86.2%/58/50/8 CG: 81.1%/53/43/10
EVOKE: Mekhail 2019 (38)	RCT (double-blind)	Closed-loop SCS	t-SCS	12 Mo	Comb. pain	TG: 73.1%/67/49/18 CG: 53.7%/67/36/31	TG: 89.1%/55/49/6 CG: 75.0%/48/36/12
EVOKE: Mekhail 2019 (38)	RCT (double-blind)	Closed-loop SCS	t-SCS	12 Mo	Back pain	TG: 70.1%/67/47/20 CG: 50.7%/67/34/33	TG: 85.5%/55/47/8 CG: 70.8%/48/34/14
EVOKE: Mekhail 2019 (38)	RCT (double-blind)	Closed-loop SCS	t-SCS	12 Mo	Leg pain	TG: 73.1%/67/49/18 CG: 53.7%/67/36/31	TG: 89.1%/55/49/6 CG: 75.0%/48/36/12
Fishman 2021 (39)	RCT (open-label)	DTM SCS	t-SCS	12 Mo	Back pain	TG: 53.7%/67/36/31 CG: 37.7%/61/23/38	TG: 85.7%/42/36/6 CG: 62.2%/37/23/14

CMM: Conventional Medical Management; Comb: Combined; Conf: Conference; DTM: Differential Target Multiplexed; ITT: Intention-to-treat; Mo: Months; N/A: Not applicable; OMM: Optimal Medical

*Management; PP: Per-protocol; RCOT: Randomized Controlled Crossover Trial; RCT: Randomized Controlled Trial; SCS: Spinal cord stimulation; Stim: Stimulation; Subperc: Subperception; t-SCS: Traditional Spinal Cord Stimulation; Yr: Years.*

*\* Interim data analysis.*