**Letter to Editor:**

We, the authors appreciate the opportunity to further discuss our study and clarify any misconceptions about the findings of our systematic review and meta-analysis.[3] Sharma et al.[12] raise several points regarding the transparency of the methods used to which we provide a point by point response.

First, the PROSPERO record cited describes a systematic review of methods employed in randomised controlled trials (RCTs) and economic evaluations of spinal cord stimulation for pain. This registration has a broader scope than presented in our current review in Pain, but does not include an intention to perform quantitative synthesis of efficacy outcomes. As Sharma et al. correctly point out, a comprehensive narrative review focusing on the methods employed in RCTs of SCS compared with placebo/sham has been published elsewhere.[4] Since the methods of our systematic review up to the point of data extraction are in line with those described in the PROSPERO record for the broader review, this precludes the need for separate PROSPERO registration for this specific review. Nevertheless, one of the main strengths of systematic reviews is its reproducibility and we would argue that the methods we reported in our present review are rigorous, and fully and transparently reported.

Second, Sharma et al. note that “…the authors did not provide key summary data for each comparison in the forest plots (e.g. mean, standard deviation, sample size). PRISMA Item #20 recommends including these details to increase the transparency of the analysis.”[12] This argument is not valid for our review for two reasons:

* Firstly, PRISMA item 20 specifies that the following should be presented: “(a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.” We present both summary data for each study and each intervention group in Tables 2 and 4 and also a forest plot with mean differences and 95% CIs for each individual study as well as a pooled mean difference and 95% CI.
* Second, the quantitative synthesis presented was not as straightforward as combining means, SDs, and sample sizes as Sharma et al. imply. Hence, presenting means, SDs and sample sizes directly on the forest plot as the authors suggest would be misleading. We refer the authors to our detailed methods section which describes exactly how we have appropriately included data from cross-over studies within the meta-analysis. Following the well-established methods of Elbourne et al.,[5] we consider the appropriate effect measure of a cross-over trial to be the mean difference with a 95% CI which takes account of the paired nature of the cross-over trial; i.e. that the intervention group serve as their own controls, so the 95% CI is narrower than it would be if independent intervention and control groups were compared. We have also provided within-participant correlation coefficients to three decimal places within our methods section, estimated from unpublished individual patient data provided to us and used to accurately estimate the appropriate effect estimates for a meta-analysis including cross-over studies. Therefore, our analysis methods are completely transparent, and meta-analysis results can be replicated from the summary data available within Table 2, Table 4 and from the publications of the RCTs.

Third, we agree that neuropathic pain is not a homogeneous condition, and the studies in our review included patients with a range of neuropathic pain conditions. However, we do not make recommendations for the use of SCS for this entire population within this paper either explicitly or implicitly. When evaluating the effectiveness of interventions, decision makers consider all available evidence; in this case it would include RCTs where SCS is compared with alternatives other than placebo/sham, where the evidence for effectiveness of SCS is more robust.[2, 7-10] In addition, MODULATE-LBP is an ongoing double-blind, randomised, sham-controlled non-industry sponsored trial comparing 10 kHz SCS to sham stimulation in subjects with neuropathic low back pain in a parallel group design with six months follow-up.[1] The results of this trial will undoubtedly further inform the evidence in the field of SCS and address some of the limitations of the current evidence.

As mentioned in the methods section “This systematic review is reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).” We note that a formal presentation of GRADE criteria is not mandatory according to PRISMA. Item 25 of PRISMA recommends that limitations are appropriately discussed. We appreciate and adequately appraised and acknowledged the limitations of the included studies including crossover study design and accurately report the duration of the study and crossover phases. We also acknowledge risks of biases within these studies, as well as the variability of the study characteristics, the heterogeneity of the individual study results and the limitations of small sample size of the individual studies which have all impacted on the resulting meta-analysis. In essence, all of the criteria of GRADE were discussed within the paper even though we do not provide the formal GRADE of the quality of the evidence and summary of findings table. Additionally, regarding imprecision, GRADE criteria recommend considering ‘optimal information size’ or ‘review information size’, [6, 11] rather than arbitrary cut offs by sample size, such as 400 participants, as suggested by the authors. As mentioned in this response and in our review, we are aware that limited data from small studies was included. However, these studies comprise the only currently available evidence on the effectiveness of SCS versus placebo/sham.

In conclusion we contend that the methods employed in this systematic review are robust, transparent and our conclusions are justified and supported by the results presented. As we clearly note in the conclusion section of our paper: “Further research is needed to evaluate the “true” effect of SCS in decreasing pain intensity of patients with neuropathic pain.”

**References**

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