



Letter to the Editor

Screening questionnaire before TMS: An update

In a recent article published in this Journal (Rossi et al., 2009), we updated, on behalf of the International Federation of Clinical Neurophysiology, the safety and ethical guidelines for the use of Transcranial Magnetic Stimulation (TMS) in clinical practice and research, including a proposal for a 15-item standard questionnaire to screen every candidate before TMS.

The questionnaire appears as the last section (number 7.5) of the article, and had been approved by all the participants to the consensus meeting. At that meeting and in the (many) following revisions of the draft, a full consensus emerged that an affirmative answer to one or more of questions 1–13 did not represent an absolute contraindication to TMS, but the risk/benefit ratio should be carefully balanced by the Principal Investigator of the research project or by the responsible (treating) physician.

Now, thanks to the feedback we received from many colleagues, we realize that two of the questions in the published questionnaire ought to be modified.

Question number 12, namely “Did you ever have a surgical procedures to your spinal cord?” is superfluous, since spinal surgery *per se* does not represent a contraindication to TMS. A possible implanted metal device can be captured in question number 6, if modified to ask also about spinal and not solely about brain/skull metal implants.

Question number 13, namely “Do you have spinal or ventricular derivations?” is conceptually misleading and grammatically wrong.

We have also taken the occasion to make a few other edits to the questionnaire, that improve its clarity.

On behalf of all coauthors of the safety paper, we apologize to the scientific community, and provide a revised 13-item screening questionnaire, which should replace the previous one.

Screening 13-item Questionnaire for rTMS Candidates

- (1) Do you have epilepsy or have you ever had a convulsion or a seizure?
- (2) Have you ever had a fainting spell or syncope? If yes, please describe on which occasion(s)?

- (3) Have you ever had a head trauma that was diagnosed as a concussion or was associated with loss of consciousness?
- (4) Do you have any hearing problems or ringing in your ears?
- (5) Do you have cochlear implants?
- (6) Are you pregnant or is there any chance that you might be?
- (7) Do you have metal in the brain, skull or elsewhere in your body (e.g., splinters, fragments, clips, etc.)? If so, specify the type of metal.
- (8) Do you have an implanted neurostimulator (e.g., DBS, epidural/subdural, VNS)?
- (9) Do you have a cardiac pacemaker or intracardiac lines?
- (10) Do you have a medication infusion device?
- (11) Are you taking any medications? (please list)
- (12) Did you ever undergo TMS in the past? If so, were there any problems.
- (13) Did you ever undergo MRI in the past? If so, were there any problems.

Reference

- Rossi S, Hallett M, Rossini PM, Pascual-Leone A. The Safety of TMS Consensus Group. Safety, ethical considerations, and application guidelines for the use of transcranial magnetic stimulation in clinical practice and research. *Clin Neurophysiol* 2009;120:2008–39.

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