Tracking

*Stimuli*

Stimuli were displayed on a MacBook Pro laptop using Matlab (MathWorks) in conjunction with the Psychophysics Toolbox (Brainard, 1997; Pelli, 1997). The displays consisted of a central fixation point (a black circle, radius = 0.15°) and eight moving black circles (radius = 0.3°) presented on a gray background. Four circles moved within a 9.4° × 9.4° region inset 2° to the left and right of fixation. Items moved at a constant speed, repelled each other to maintain a minimum center to center spacing of 1.5° and “bounced” off of the invisible edges of the square region in which they moved (please refer to Battelli, Alvarez, Carlson and Pascual-Leone, 2009).

*Speed threshold recording*

On the first day of testing, we equated all conditions for difficulty by determining the speed at which patients could perform the task with 75% accuracy. At the beginning of each trial, the fixation point was presented for 1 sec, then eight circles appeared (4 on the left, 4 on the right), and a subset blinked off and on at 2 Hz for 3 sec to identify them as targets for tracking. After blinking, all of the circles moved without crossing the midline for 3 sec. After the items stopped, one of them was highlighted in red (50/50 target or distractor). Patients then indicated by voice whether the red item was a target or distractor, with a response time cutoff of 10 sec. An experimenter, blinded to the TMS condition, recorded patients’ answers by pressing two keys of the keyboard. After the response, the fixation point turned green for a correct response or red for an incorrect response for 1 sec. The next trial began immediately following this feedback (Figure 2).

- Insert Figure 2 about here -

Patients performed first of all a practice block (16 trials) in which the circles moved at 2 deg/sec to learn the task, and then four test blocks in which the circles moved at one of eight different speeds (speeds were adjusted for each patient individually) on each trial, with the speeds randomly interleaved over 4 blocks of 32 trials each. This threshold procedure was used to identify the speed at which two (unilateral) or four targets (bilateral condition) could be tracked with 75% accuracy. Different threshold speeds were obtained for each individual subject, and different speeds were obtained for two targets in the unilateral and for four targets in the bilateral conditions.

Qui c’è scritto che c’era una practice block, che sarebbe meglio se fosse opzionale, mentre qui non lo è… I soggetti lo devono fare per forza…