

## S13-01

### TECHNICAL ASPECTS OF ELECTROCONVULSIVE THERAPY: AN UPDATE

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In an ongoing attempt to improve efficacy of electroconvulsive therapy (ECT) while minimizing side-effects, both different electrode placements and stimulus parameters have been studied. It has been shown that the traditional bitemporal electrode placement and modern techniques such as bifrontal and unilateral ECT are efficacious, depending on the stimulus used. Modern ECT-devices deliver a square wave brief pulse stimulus. An unresolved issue in the use of brief pulse stimulation concerns the optimal pulse width. It has been suggested that the use of a stimulus with an ultra brief (UB) pulse width, i.e. 0.3 ms, is substantially more efficient in seizure induction, thus needing less energy, and producing less cognitive side-effects than standard pulse width (i.e. 0.5-2 ms) stimulation. There has been a concern, however, of lower antidepressant efficacy of UB ECT, with patients needing additional treatment sessions. Moreover, it has been suggested that the diminished antidepressive efficacy is encountered solely with the combination of an ultra-brief pulse width and bilateral electrode placement, as compared to unilateral UB ECT or standard pulse ECT. In a randomized trial, the antidepressive efficacy and cognitive side-effects of bifrontal and right unilateral UB ECT were compared. It was shown that, using an ultra-brief pulse width, BF ECT is as efficacious as UL ECT, although patients receiving UL ECT achieved response/remission-criteria after a smaller number of treatments. In both treatment conditions there was an improvement of cognitive function, both during and after the treatment course.