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January 10, 2011

James Engles
Division of Dockets Management
Food and Drug Administration
5630 Fishers lane, Room 1061
Rockville, MD 20852

Dear Mr. Engles,

Re; Docket Number FDA-2010-N-0585
ECT Hearings

I am submitting written testimony to the ECT Hearings because I am unable to attend in person. I am a psychiatrist. I have published 150 peer-reviewed papers and 23 books, have reviewed for more than twenty psychiatry journals and have received a number of research grants. I completed my residency in psychiatry in Canada in 1985 and moved to Texas in 1991, where I have been in practice since.

I attach three reviews of the ECT literature: the one by myself and the one by Read and Bentall are basically in agreement, while the third by Pagnin et al. provides a very different analysis of the ECT literature. The Pagnin review was published in the Journal of ECT and represents a view of ECT and reading of the ECT literature that I was taught in my training, that is widely endorsed by psychiatrists, and that I assume will be presented to you in testimony.

I was taught that ECT is safe and highly effective and this view is widely upheld in the ECT literature. The problem is, this is not scientifically true. The data clearly demonstrate that ECT is at best marginally superior to sham-ECT in some but not all studies, and only while the treatment is being delivered. No study has ever been published showing that individuals receiving real ECT have lower depression scores than those receiving sham ECT at one month or more post-treatment. All the existing studies looking for such a difference found none.

Clearly, a randomized double-blind, placebo-controlled prospective study provides the highest level of evidence for the effectiveness of any antidepressant treatment. For ECT, this is found in the sham ECT literature. The sham ECT literature demonstrates conclusively that ECT does not meet FDA standards for an effective treatment of depression. Why should ECT be approved by the FDA based on a far lower standard of evidence than is required for antidepressant medication? In my view, it should not.

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The Pagnin review contains all the methodological and analytical errors discussed by Read and Bentall, and is referenced in their paper. I think that the FDA should examine the ECT literature with the same degree of rigor and the same freedom from bias that lead to black box warnings for SSRI antidepressants. The need for black box warnings was not recommended, endorsed or lobbied for by psychiatrists, as you are aware. I think you should examine conflicts of interest among advocates of ECT just as you examine drug company ties among advocates of medication. Such conflicts of interest include ownership of ECT machine companies, being paid by ECT machine companies, holding stock in such companies and other financial biases. They also include a more intangible desire to protect the status quo in clinical psychiatry, and professional reputations as experts in ECT, as well as a desire to protect psychiatrists from medical-legal liability.

In general, the effectiveness of ECT is greatly exaggerated in the ECT literature and its toxicities and side effects are greatly minimized, discredited as "anecdotal," attributed to the depression rather than the treatment, or dismissed as "anti-psychiatry." This is similar to the state of affairs in psychopharmacology. It is true that antidepressants are statistically superior to placebo in studies submitted to the FDA but, as you know, this difference is at most modest clinically. It disappears when unpublished negative studies are added back into meta-analyses, at least for mild and moderate depression. Therefore you should examine carefully whether evidence that ECT is equal to antidepressants indicates that it is also equal to placebo.

Another issue I would like you to consider is safety standards for ECT. Of course, it is essential to conduct a review of the side effects of ECT, but here I am thinking of a more industrial safety standards approach. What are the industrial safety standards for exposure of the human body to electricity, and specifically the brain? I imagine you will find that the amount of electricity delivered to the brain during ECT exceeds industrial safety standards. That amount of exposure in the workplace would be defined as an *accident* and government inspectors would require that specific steps be taken to reduce the risk of future accidents.

Why should psychiatry be allowed to impose electrical accidents on the human brain when industry is not allowed to do so? For such an exposure to be tolerable, a wide margin of superiority to placebo would be required, but ECT does not have such a margin.

In reviewing the side effects of ECT, you should, in my opinion, review animal studies done decades ago that clearly demonstrated severe damage to experimental animal brain tissue. You should ask the profession of psychiatry and advocates of ECT why no such studies have been conducted in the last ten years? Why is ECT not held to the same standards for Phase 1 safety as antidepressant medication? The same applies to sham ECT studies: why are there no recent sham ECT studies? The ECT literature in general asserts that there is no need for such studies and/or that they would be unethical because the placebo group would be denied an effective treatment. I don't see why the requirement for placebo controls should be less for ECT than it is for medications.

If ECT was in fact safe and effective with minimal cognitive side effects, then it would be a useful treatment. The problem is that this is not scientifically true. I hope that you will not be persuaded by assertion, appeals to authority or folklore-based claims to the contrary.

Thank you.

Sincerely,

Colin A. Ross, M.D.

Ross, C.A. (2006) The Sham ECT Literature: Implications for Consent to ECT. *Ethical Human Psychology and Psychiatry*, 8, 17-28.
Read, J., & Bentall, R. (2010). The effectiveness of electroconvulsive therapy: A literature review. *Epidemiologia e psichiatria sociale*, 19, 333-347.
Pagnin, D., de Querioz, V., Pini, S., & Cassano, G.B. (2004). Efficacy of ECT in depression: A meta-analytic review. *Journal of ECT*, 20, 13-20.

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