eight weeks after starting the trial. The means of two levels were: amitriptyline 18, 27, 18, 64, 35 and 30 respectively and nortriptyline 36, 28, 25, 35, 73 and 31 respectively in six of the cases. Two others who also had these estimations carried out produced positive results in only the first of the two tests: amitriptyline levels 13 and 7, nortriptyline levels 4 and 25. There was thus satisfactory compliance in three quarters of the women who had blood tests carried out.

The mean age of the women in the trial was 32.4 (SD = 6.7, range 20 to 46) without any significant difference between drug and placebo groups. On the first visit to the family doctor, the mean Leeds Scale D scores were: active drug group 6.3, SD = 3.5, n = 13, placebo group 4.2, SD = 2.5, n = 12. There was no significant difference. Two weeks later there was little change: active drug 5.7, SD = 4.4, n = 12; placebo group 4.5, SD = 2.6, n = 12. Mean scores of the active drug group continued to fall over the three months on medication and was 3.9, SD = 3.2, n = 12 after a year when the women were interviewed. This fall of 2.4 from initial visit to follow up was significant (t corr = 2.7, $P < .05$). Over the same period mean scores of the placebo group rose 1.1 which was not significant (t corr = 1.4). Comparison between active drug and placebo groups on the disparities between initial and review scores after one year, using analysis of variance showed significant differences ($P < .01$) between the groups.

Our survey, which has not yet been published, was comparable to other similar investigations in that about a third of women studied were identified as possibly disturbed, and adverse social factors were related to symptoms of anxiety and depression. An attempt was made to treat 30 of the disturbed women who could not be included in the trial, mainly because of possible pregnancy, by regular health visitor sessions, carefully planned and supervised by one of us (A.B.). Only eight of them accepted this approach. We believe that symptoms of depression affecting women with young children in the community should be treated initially with amitriptyline when there are no contraindications. This would seem to be acceptable to many of them and in keeping with the family doctors' usual way of dealing with troublesome symptoms.

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EEG MONITORING OF ECT

DEAR SIR,

There are several issues that must be raised regarding the recent article by Christensen and Koldbaek (*Journal*, July 1982, **141**, 19–23) describing electroencephalographic (EEG) monitoring of electroconvulsive therapy (ECT) using the MECTA instrument. We have had the opportunity to study 19-channel EEG tracings recorded during ECT on a Grass 8-18C EEG instrument using the International (10–20) system for recording electrode placement plus naso-pharyngeal leads (Staton *et al*, 1980; Staton *et al*, 1981; Brumback and Staton, 1982; Gerst *et al*, 1982). We have compared standard EEG tracings with simultaneous recordings produced on the MECTA instrument. We found that the MECTA recording of brain activity from bifrontal electrodes did not correlate with standard EEG tracings. Frontal electrodes are the most susceptible to muscle artefacts (from the frontalis muscle) and eye movement artefacts. What Christensen and Koldbaek labeled as a "supra-convulsion" (their Fig 1D) is the typical pattern of frontalis muscle artefact and their "threshold pattern" (their Fig 1A) is similar to eye movement artefact. The MECTA instrument displays a bipolar recording from the bifrontal electrodes. Bipolar recording measures only the *difference* in potential between electrodes. Since the bitemporal stimulus from the MECTA instrument produces a bilaterally symmetrical electrical seizure, there is little or no

potential difference between the bifrontal recording electrodes resulting in a nearly flat line (isoelectric) tracing. In contrast, the MECTA instrument will show the greatest activity in tracings of asymmetrical aborted seizures (demonstrated as such by standard EEG recording). Another methodological problem with their study is the alteration at the next session of the stimulus parameters presumably to prevent unacceptable convulsions. The authors do not describe the amount of barbiturate anesthesia or other medications given to each patient. We have demonstrated that the anticonvulsant properties of barbiturate anesthesia can reduce the length of electroconvulsive seizures by 40 per cent (Lunn *et al*, 1981), and Ottoson (*Journal*, July 1982, **141**, 103) points out that benzodiazepines either pre-ECT or as nocturnal sedation can reduce the length of or prevent ECT seizures. We have also observed that the same dose of anesthetic barbiturate can produce different degrees of anesthesia (and presumably different anticonvulsant effect) on different days. While their basic premise that ECT be monitored by EEG recording is good, the methodological problems with this particular study by Christensen and Koldbaek make their findings of questionable value.

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ELECTRIC SHOCK HAZARDS FOR OPERATORS OF ECT EQUIPMENT

DEAR SIR,

Operators of ECT equipment have reported to us that on several occasions they have received mild electric shocks whilst using a standard constant voltage ECT instrument (Electron Duopulse Mk4). When tested, the equipment was functioning correctly and complied with the current electrical safety standards (BS 5724).

However, the operating instructions state that the electrodes of the bilateral headset should be soaked in electrolyte solution to ensure good electrical contact to the patient. Inevitably the legs of the headset become soaked in the electrolyte solution producing a conducting path along the surface of the Tufnol insulation. In our experience the operator held the headset in one hand and the patient's chin in the other. If the operators hand touches one of the Tufnol legs in the headset, an alternative path for the current through the operator is produced. We have demonstrated that currents of 1 mA (r.m.s.) can flow through the operator, producing a sensation of tingling and a mild shock. This current is unlikely to cause major physiological changes but is twice the acceptable limit for leakage currents in electromedical equipment (BS 5724).

The same problem can arise with two-handed sets although in this case the operator's hands must be connected to both electrodes. The problem is reduced with a constant current device (Ectron constant current series 2). Since the mean voltage is lower (although the peak voltages may be higher), the current experienced by the operator is lower.

The methods of dealing with this problem are:

(a) The operator should wear rubber gloves (domestic or surgical gloves are suitable, but not vinyl inspection gloves).

(b) The operator should minimise the amount of electrolyte splashed onto the insulating legs.

(c) The headset should be treated with the same caution as one would treat a piece of mains operated equipment.

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