

## **Medical Ethics**

### **The WPA position statement on the ethics of the use of unmodified electroconvulsive therapy**

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تقرير عن موقف الجمعية العالمية للاطباء النفسانيين من اخلاقيات العلاج الكهربائي الغير معدل

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#### **Abstract**

This position statement is an addendum to the one on the use and safety of electroconvulsive therapy that was prepared by the Section of Biological Psychiatry in 2004 and was eventually approved by the WPA General Assembly in 2005<sup>1</sup>.

#### **Introduction**

The WPA position statement on the use and safety of ECT has referred to ethical considerations in its use; the need to obtain informed consent from those with capacity to consent; to ensure that the patients' relatives and carers are consulted in the case of patients with impaired capacity to consent and to seek a second opinion from an appropriately trained professional. However, the statement has not referred to the use and safety of unmodified ECT or the ethics of its practice. It is to be noted in this context that most national guidelines on the use of ECT have not referred to the use of unmodified ECT. This may be related to the notion that

unmodified ECT is hardly ever used in Western Europe, North America and Australasia, countries that have produced these national guidelines. The WPA, as a global health professional organisation needs to provide guidance on the use of unmodified ECT in view of the continued use of this method in many countries.

#### **The use of unmodified ECT**

Electroconvulsive therapy, which was introduced in 1938, was originally unmodified and involved the administration of electrical current resulting in a generalised convulsion. Injuries resulting from violent convulsions were prevented by applying physical restraint and holding of the patient. ECT induces

a central seizure detected by electroencephalogram and a visible convulsion. All along, it was conceived that the central seizure and the peripheral convulsion were the effective ingredients in ECT. The ECT procedure was modified in 1950s with the introduction of anaesthesia and muscle relaxation prior to the administration of ECT. In addition, patients were premedicated with atropine administered subcutaneously 30-60 minutes before the ECT to reduce bronchial secretions and inhibit the vagal discharge which accompanies the convulsion and thus minimise the occurrence of arrhythmias. In view of the cerebral effects of atropine it was replaced by methylscopolamine, which does not cross the blood-brain barrier.

For anaesthesia, short acting barbiturates such as methylhexitone or thiopentone are used at the minimal dose so that the seizure threshold is not raised. The dose should be sufficient to induce unconsciousness to prevent the terrifying experience of total paralysis, including paralysis of respiratory muscles, induced by the muscle relaxant.

Once the patient is rendered unconscious, the muscle relaxant (suxamethonium), the modifying

agent with the effect of abolishing the peripheral convulsion is introduced. Once the anaesthetic and the muscle relaxant are given, 100% oxygen is administered by mask before and after the convulsion and continued until spontaneous respiration has returned. The safe administration of ECT requires the involvement of an anaesthetist or other appropriately trained health practitioners such as psychiatrists or nurses.

#### **Current use of unmodified ECT**

The use of unmodified ECT has been variously described as barbaric, inhumane and unethical, labels that have also been used to describe ECT whether modified or unmodified. In the case of unmodified ECT, this derives from the impression of the onlookers witnessing the patient whilst having a generalised convulsion and being physically held and restrained to prevent physical injury. With the introduction of modified ECT in the 1950s the use of unmodified ECT was gradually phased out over the next two decades. Modified ECT has become the standard practice in Western Europe, North America and Australia. However, reports and surveys have shown that unmodified ECT is still used in

Japan, Russia, China, India, Thailand, Turkey and in many low and middle – income countries.

Concerns were expressed by the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment on the use of unmodified ECT in Turkey (<http://www.cpt.coe.int/en/states/tur.htm>).

The Turkish Government has responded to the report indicating that it has taken corrective action (<http://www.cpt.coe.int/documents/tur/2006-30-inf-eng.htm>).

A recent survey of ECT practice in Japan reported the use of unmodified ECT in 60 institutions<sup>2</sup> and in 37 of these 60 institutions unmodified ECT was used exclusively, less in University than in non – University psychiatric hospitals. The reasons for using unmodified ECT included emergency, lack of anaesthetist and equipment, being “safer than modified ECT” and being reserved for young people. Particular side effects of unmodified ECT included incidence of teeth injury, arrhythmia and fracture/dislocation. No cases of ECT – related death were reported.

A national survey of ECT use in the

Russian Federation reported that fewer than 20% of ECTs were modified with anaesthesia.

Anaesthesia and muscle relaxants were never used in 31 out of the 42 responding institutions estimating that 21% of institutions used modified ECT at least sometimes<sup>3</sup>. It was noted in the report that there was no system or expectation for ECT training and no national organisation to advance ECT practice despite the respondents’ enthusiasm and positive attitudes towards ECT and for adopting modern ECT methods.

The national Survey of ECT Practice in Thailand<sup>4</sup>, showed that unmodified ECT was used always in 9 psychiatric and 5 general hospitals and occasionally in two university hospitals comprising 94% of all ECT use. Respondents gave reasons for their use of unmodified ECT: lack of funds, convenience, lack of personnel, lack of equipment, lack of anaesthesia and economic reasons. This was related to the poor infrastructure and resourcing of mental health services and specifically to the psychiatrists’ attitudes and lack of training in the practice of ECT.

A survey of the practice of ECT

in 188 teaching institutions and psychiatric hospitals in India showed that more than 70% of ECT administrations were performed in psychiatric hospitals and approximately half of ECT use was on unmodified ECT<sup>5</sup>.

However, there are very few reports on the use of unmodified ECT from low income countries except for earlier studies from Nigeria indicating that unmodified ECT was the main method of administration<sup>6, 7</sup>. This is likely to be the case in many low income countries in view of the poor infrastructure and funding for psychiatric services and the lack of trained mental health professionals.

#### **The efficacy and safety of unmodified ECT**

There have been few controlled studies on the comparative efficacy of modified and unmodified ECT.<sup>8</sup> Kendell reviewed the few controlled studies and concluded that modified and unmodified ECT were equally effective, as shown in the studies by Havens (1958) and Seager (1959)<sup>9,10</sup> which both involved substantial numbers of patients who were randomly allocated to the two treatments. Further studies specifically evaluating the therapeutic effects of

the convulsion confirmed it as the therapeutic ingredient<sup>11, 12,13</sup>. The role of the convulsion in mediating the therapeutic effects of ECT has, of course, been strongly supported by the controlled studies of real and simulated ECT reviewed in the WPA consensus statement on its use<sup>1</sup>.

The controversy over the use of unmodified ECT, however, has been mainly related to its risks and adverse effects. Notwithstanding the recognised and well documented adverse effects of ECT as reviewed in the WPA consensus statement, unmodified ECT has been associated with physical injuries produced by the uncontrolled convulsive movements which cause fractures in the mid thoracic vertebrae and dislocations particularly of the jaw, occurring in 30% of patients in some studies<sup>8,14</sup>. They highlighted the disadvantages of unmodified ECT with reference to Western research conducted in the 1940s and 1950s which suggested that convulsions were associated with 20-40% risk of multiple subclinical vertebral body compression fractures mostly affecting the middle thoracic vertebrae observed

mainly in males, in young and in old subjects. However, these fractures were not associated with pain or other symptoms and did not require orthopaedic intervention.

**Andrade et al** (2003)<sup>14</sup> have reported new research on the adverse effects of unmodified ECT conducted in India between 1980 and 1990, reporting that only 0.7 % of patients had fractures with unmodified ECT, the majority of whom suffered no pain or disability or other musculoskeletal complications . A further study with radiological evidence showed 2% rate of vertebral injury<sup>16</sup>. Unmodified ECT does not appear to cause internal tissue damage expressed in a number of metabolic changes<sup>17</sup>.

It must be noted that unmodified ECT is essentially unmonitored ECT as well, meaning that all acquired knowledge as to the monitoring of the seizure and the related physiological parameters cannot be used.

#### **Ethical considerations**

The principal ethical concern about the use of unmodified ECT is related to the risk of suffering the aforementioned adverse effects that do not occur when modified ECT is used. However, such risks should

be set against the benefits of administration of unmodified ECT in cases where ECT is strongly indicated and can not be given in its modified form. Such a case is psychotic depression with high suicidal risk which requires rapid intervention with ECT, the most effective treatment in such a condition.

The pros and cons of administering unmodified ECT should be carefully considered. Informed consent, including consent of the patient's relatives and carers should be secured. Moreover, there needs to be an appreciation of the realities of practice of ECT in low income countries with poor service infrastructure and limited availability of anaesthetists and medication for the administration of modified ECT. It must be noted that there is no guidance on the use of unmodified ECT by the American Psychiatric Association, the Royal College of Psychiatrists and other authoritative bodies catering for ECT practice in high income and well resourced countries. The WPA as a global association of national psychiatric organisations strongly advocates the use of modified ECT as

standard and optimal practice. However, it is recognised that there are cases in which psychiatrists are faced with the situation where ECT is strongly indicated but there are no facilities and skilled staff to administer it in its modified form. In these cases unmodified ECT should be considered as an option after full consultation with the patients and their relatives and ensuring informed consent is obtained. Such considerations are no different from considerations of urgent medical and surgical interventions that may be associated with greater risks and more serious adverse effects.

**Andrade et al (2003)**<sup>18</sup> in their commentary on the dilemma of unmodified ECT referred to the civil rights activities in India which culminated in a non - governmental organisation for the rights of the mentally ill filing a writ petition to the supreme court of India in 2001 seeking a blanket prohibition of the practice of unmodified ECT. In relation to this, it is noted that the national psychiatric associations in India have advocated that whilst the practice of modified ECT should be the rule, consideration should be given to exceptions when unmodified ECT should be

considered. The verdict of the Supreme Court is still awaited.

**Andrade et al (2003)** regretted that the Indian Psychiatric Society had not taken an official position on the use of unmodified ECT or produced guidelines to that effect and have advocated that “there are extenuating circumstances in which unmodified ECT may be better than no ECT .... and that the decision to administer unmodified ECT must be made in exceptional circumstances and on a case by case basis, and never as a routine practice ..... “

#### **Conclusions and Recommendations**

Whilst unmodified ECT is as effective as modified ECT (administered with an anaesthetic and a muscle relaxant), it is associated with significant risk and adverse effects (fractures and dislocation), which do not occur with modified ECT. This has rendered the use of unmodified ECT more controversial than modified ECT and raised ethical concerns over its continued use. Recent reviews of the practice of ECT has indicated that unmodified ECT is still in use in countries like Japan, the Russian Federation, India, Thailand , Turkey and most

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probably in many developing and low income countries with poor infrastructure and funding for mental health services and few professional human resources.

Understandably, the guidance from National Professional Associations in Western Europe and the US have not tackled the issue of the use of unmodified ECT as it is no longer in use in these countries.

Regrettably the national psychiatric associations in countries where unmodified ECT is still in use have not provided guidance on its use. The WPA as a global professional association and following the recent international congress in Istanbul has issued this addendum statement on the use, safety and ethics of unmodified ECT and makes the following recommendation:

The National Member Societies of the WPA, in collaboration with their governments are asked to implement the WPA declarations, statements and guidelines on ethics and consider the recommendations of the WHO resource book on mental health, human rights and legislation, with the following aims:-

- To support ethical practices and observe human rights in all clinical,

research, educational and policy activities;

- To implement modified ECT as standard practice for every person who needs this treatment.

- To cease the use of unmodified ECT in view of evidence indicating that this method has no difference in effectiveness from modified ECT but has more adverse effects.

- In settings where the current choice in the field is unmodified ECT or no ECT, to make decisions on the basis of the clinical condition of the patient, current evidence - based information, the informed consent of patient and relatives and the consideration of possible equally effective alternative treatments.

- To urgently make every effort for the creation of the necessary infrastructure for the provision of modified ECT. This is an ethical obligation on the part of Governments professional organizations and individual practitioners.

**This statement was prepared by Mohammed T Abou-Saleh, revised by George Christodoulou and reviewed by the members of the WPA Standing Committee on Ethics and the WPA Section on Biological Psychiatry and has**

**incorporated the comments of the WPA Member Societies and other WPA components. Special mention must be made of the contribution of Eliot Sorel and**

**the WPA Section on Conflict Management and Resolution which raised this matter of concern in the WPA.**

**الملخص :**

هذه ورقه اضافيه للورقه السابقه التي بينت استعمال وأمان العلاج بالإختلاج الكهربائي والتي تم تحضيرها من قبل قسم الطب النفسي البيولوجي عام 2004. وتمت المصادقه عليها من الجمعيه العالميه للطب النفسي في الهيئه العموميه عام 2005.

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