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A double-blind randomized placebo-controlled study of therapeutic suggestions during general anaesthesia

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Evidence increasingly suggests that operating theatre sounds are registered in some areas of the cortex during general anaesthesia and that these sounds may influence recovery from surgery [1]. Cortical auditory evoked responses are not abolished by inhalational anaesthetic agents even at concentrations above those required for surgery [2] and, although very few patients can recall intraoperative events [3-6], a more sensitive assessment of learning found significant postoperative recognition of words presented during general anaesthesia [7]. Furthermore, patients who are unable to recall instructions made during surgery may still obey them postoperatively [8,9]. Patients may also respond to therapeutic suggestions made during anaesthesia. Two uncontrolled studies reported that such suggestions improved recovery from surgery [10,11], a conclusion supported by two double-blind randomized controlled studies. Pearson [12] found that patients who heard tape-recorded therapeutic suggestions left hospital significantly sooner than those played music or blank tapes, but the suggestion and control groups had not been matched for the type of surgery performed. Bonke and colleagues [13] reported similar findings with cholecystectomy patients but only in older people. However, a replication study [14] and a smaller study with patients undergoing hysterectomy [15,16] found no significant improvement in recovery following therapeutic suggestions during anaesthesia.

We therefore conducted a double-blind randomized controlled study to examine further the hypothesis that the quality and dura-

tion of recovery from surgery would be improved by therapeutic suggestions made during general anaesthesia.

Patients and Methods

Patients. Every patient admitted to St Thomas' Hospital for a total abdominal hysterectomy over a twelve week period was invited to take part in the study which was approved by the West Lambeth Health Authority Ethics Committee. Four patients declined to consent, two failed to complete the questionnaires and one was excluded owing to the need for a second operation. The characteristics of the remaining 39 subjects are summarized in Table 1.

Materials. Patients were randomly played a suggestion tape or a visually indistinguishable blank control tape. It was not known which type of tape had been played to each patient until the end of the study. A waterproof auto-reverse tape player (Sony WM F-63) was used in the operating theatre with purpose-built headphones which made operating theatre sounds inaudible to the patient and prevented the tape contents being overheard by the anaesthetist.

Twelve minutes of therapeutic suggestions were repeated three times on each side of the suggestion tapes: the major section described for nine minutes the normal postoperative procedures with advice on how best to cope with them [12] (e.g., "...How quickly you recover from your operation depends upon you; the more you relax, the more comfortable you will be..."); then two minutes of direct suggestions [11,13] (e.g., "...You will not feel sick, you will not have any pain ..."); and one minute of third person suggestions [13] (e.g., "...The operation seems to be going very well and the patient is fine..."). A complete transcript of the suggestion tape is available on request.

Procedure. On the day preceding surgery, each subject completed a questionnaire which consisted of: a short form of the Profile of Mood States Questionnaire [17,18] which provides six individual mood scores (tension, depression, anger, fatigue, vigour and confusion) and an overall negative mood score; the 'state' version of the State-Trait Anxiety Inventory [19]; and a 10 cm Visual Analogue Scale [20] assessing how distressing it was to come into hospital.

Each patient was randomly allocated to hear a suggestion or control tape which was played from the time of the first incision to the start of wound closure. Normal anaesthetic and clinical procedures were not modified and the anaesthetist recorded the duration of