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# Therapeutic Suggestions during General Anesthesia*

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Patients who were given hypnotic suggestions during hysterectomy had fewer complications and a shorter hospital stay.

Evidence increasingly suggests that operating theater sounds are probably registered in some areas of the cortex during general anesthesia and these sounds may influence recovery from surgery.[1] Cortical auditory evoked responses are not abolished by inhalational anesthetic 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 anesthesia.[7] Furthermore, patients who are unable to recall instructions made during surgery may still obey them postoperatively: 11 patients who were told during anesthesia to touch their ears during a subsequent interview did so significantly more frequently than control patients,[8] a finding replicated in patients who had cardiac surgery.[9] Patients may also respond to therapeutic suggestions made during surgery. Two uncontrolled studies reported that therapeutic suggestions during anesthesia improved recovery from surgery,[10,11] a conclusion supported by two double-blind randomized controlled studies. Patients who heard tape-recorded therapeutic suggestions left the hospital significantly sooner than those played music or blank tapes, but the suggestion and control groups were not matched for type of surgery.[12] Others reported similar findings with patients who underwent cholecystectomy (removal of the gall bladder) but only in older people.[13] We conducted a double-blind randomized controlled study to examine further the hypothesis that the quality and duration of recovery from surgery would be improved by therapeutic suggestions made during general anesthesia.

*Adapted with permission from *The Lancet*, August 27, 1988, pp. 491-93.

## Patients and Methods

Every patient admitted to St. Thomas's 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, two failed to complete the questionnaires, and one was excluded because a second operation was needed. The characteristics of the remaining 39 subjects are summarized in Table 1.

Patients were randomly played a suggestion tape or a visually indistinguishable blank control tape; the one played to each patient was not known until the end of the study. A waterproof auto-reverse tape player (Sony WM F-63) was used in the operating theater with purpose-built headphones which made operating theater sounds inaudible to the patient and prevented the tape being overheard by the anesthetist. Twelve minutes of suggestions were repeated three times on each side of the suggestion tape; the major section described for nine minutes the normal postoperative procedures with advice on how best to cope with them[12] (for example, "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 therapeutic suggestions[11,13] (for example, "You will not feel sick, you will not have any pain"); and one minute of third-person suggestions[13] (for example, "The operation seems to be going very well and the patient is fine"). A complete transcript of the suggestion tape is available on request.

On the day before surgery each subject completed a questionnaire: a short form of the profile of mood states questionnaire[14,15] which provides six individual mood scores (tension, depression, anger, fatigue, vigor, and confusion) and an overall negative mood score; the Spielberger state-trait anxiety inventory,[16] and a 10cm visual analogue scale[17] to assess how distressed the patient felt by admission to 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 closures. Normal anesthetic and clinical procedures were not modified and the anesthetist recorded the duration of surgery, the intraoperative blood loss, the anesthetic agents used, and whether the patient showed any signs of consciousness during surgery.

When each patient got up for the first time after surgery, a nurse filled in a six point mobilization rating scale to assess the amount of help required; any vomiting was recorded. The number of half-days when a temperature exceeded 37.3°C was recorded for the first five postoperative days, as was analgesia usage. On the fifth day after surgery, each patient was asked to complete the mood and anxiety questionnaires again, and to make visual analogue scale ratings of pain intensity; distress caused

Table 1. **Potential Confounding Variables**

| | Control Group (20 subjects) | Suggestion Group (19 subjects) |
|---|---|---|
| Age (yr) | 43.80 (7.1) | 41.79 (6.5) |
| Preoperative anxiety (20–60) | 43.95 (12.9) | 41.00 (9.4) |
| Intraoperative blood loss (ml) | 309.17 (221.2) | 314.80 (181.5) |
| Duration of surgery (min) | 66.31 (16.8) | 70.63 (23.9) |
| *Ethnic origin of patient* | | |
| Caucasian | 9 | 13 |
| Afro-Caribbean | 11 | 6 |
| *Anesthetist's experience* | | |
| Consultant | 8 | 10 |
| Other | 12 | 8 |
| *Surgeon's experience* | | |
| Consultant | 18 | 12 |
| SR/registrar | 2 | 7 |

Mean (SD)