

# Antenatal Self-hypnosis for Labour and Childbirth: A Pilot Study

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## SUMMARY

*In our institution we have used antenatal training in self-hypnosis for over three years as a tool to provide relaxation, anxiolysis and analgesia for women in labour. To assess the effects of hypnotherapy, we prospectively collected data related to the use of hypnosis in preparation for childbirth, and compared the birth outcomes of women experiencing antenatal hypnosis with parity and gestational age matched controls.*

*Methods: Prospective data about women taught self-hypnosis in preparation for childbirth were collected between August 2002 and August 2004. Birth outcome data of women using hypnosis were compared with routinely collected retrospective data from parity and gestational age matched women delivering after 37 weeks gestation during 2003.*

*Results: Seventy-seven antenatal women consecutively taught self-hypnosis in preparation for childbirth were compared with 3,249 parity and gestational age matched controls. Of the women taught antenatal self-hypnosis, nulliparous parturients used fewer epidurals: 36% (18/50) compared with 53% (765/1436) of controls (RR 0.68 [95% CI 0.47-0.98]); and required less augmentation: 18% (9/50) vs 36% (523/1436) (RR 0.48 [95%CI 0.27-0.90]).*

*Conclusions: Our clinical findings are consistent with recent meta-analyses showing beneficial outcomes associated with the use of hypnosis in childbirth. Adequately powered, randomized trials are required to further elucidate the effects of hypnosis preparation for childbirth.*

Key Words: hypnosis, self-hypnosis, communication, pregnancy, childbirth, labour analgesia

Hypnosis has fascinated both clinicians and patients for over a century and has strong historical links with the practice of anaesthesia<sup>1</sup>. Hypnotic analgesia is considered to be one of the most dramatic of all hypnotic phenomena<sup>2</sup>. More recently the effects of hypnosis have become an area of increasing clinical interest and research<sup>3-6</sup>. Advances in brain imaging using positron emission tomography have

demonstrated that the anterior cingulate gyrus is one of the cerebral sites modulated during hypnosis-induced analgesia<sup>7,8</sup>. The suppression of neural activity between the sensory cortex and the amygdalalimbic system appears to inhibit the emotional interpretation of sensations such as pain.

The essential components of hypnosis are considered to be a conscious state of narrow focused attention, reduced awareness of external stimuli and increased response to suggestion<sup>9</sup>. Suggestions are verbal or non-verbal therapeutic communications directed to the patient's subconscious. Patient responses, such as analgesia or anxiolysis, appear independent of any conscious effort or reasoning. Successful clinical application of hypnosis in the perioperative setting has been widely reported<sup>3,5,6,10-12</sup>. Self-hypnosis techniques are readily taught, allowing patients to become self-sufficient and confident.

The pain of labour is almost universal and the predominance of fear and anxiety surrounding childbirth<sup>13</sup> makes this setting one of the most useful for hypnotherapy<sup>14</sup>. Several small trials suggest hypnosis

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is of value as an adjunctive method of pain relief in childbirth<sup>15</sup>.

In April 2002 we began using hypnosis as an adjunct to routine obstetric anaesthetic care. The study aim was to: (i) prospectively collect data related to the use of hypnosis in clinical practice and (ii) compare birth outcomes of women taught self-hypnosis with gestational age and parity matched controls, delivering after 37 weeks gestation in our institution, during 2003.

## METHODS

Following local ethics committee approval and informed patient consent, we prospectively collected data about obstetric patients who were trained in self-hypnosis for use as adjunctive analgesia during childbirth, between August 2002 and August 2004. Women were taught on up to four occasions, lasting between 40 and 60 minutes, after 35 weeks gestation. Hypnosis was avoided in deaf patients, those who required a translator and patients who were suffering an active depressive or psychotic illness. The sessions were led by a Consultant Anaesthetist (AMC or MIA) trained in hypnosis. Hypnotizability assessments were based on eliciting hypnotic phenomena such as eye catalepsy, arm levitation, spontaneous amnesia or time distortion<sup>16</sup>. If no phenomena were elicited during the first attempted use of hypnosis, the patient was designated as being of 'low' hypnotizability. If one or two phenomena were elicited, the patient's hypnotizability was designated 'moderate'. Patients with more than two phenomena were designated of 'high' hypnotizability.

In the first session women were given information about hypnosis and common myths were dispelled, such as the fact that hypnosis is not sleep. Women were reassured that they would remain in full control throughout hypnosis and that they would be able to come out of hypnosis at any time should they wish to do so. In addition, participants were informed that they would not do anything that might make them feel uncomfortable. Women were encouraged to use self-hypnosis as an adjunct to other methods of analgesia, thereby expanding the pain relief options available to the woman during childbirth. It was explained that the aim of the intervention was to assist women to give birth in the easiest, most comfortable and safest way possible for mother and baby. Emphasis was placed upon the positive nature of the pregnancy and birth process, engendering confidence and trust in the body to do what was necessary. As part of the information provided, it was acknowledged that labour is a painful experience for many

mothers. However it was suggested, both in and out of hypnosis, that contractions can be experienced in a positive (or even exhilarating) way. Patients were asked to focus on the rest that follows each contraction while appreciating the strength and effectiveness of contractions as labour progressed. Language used by the anaesthetist during these sessions was carefully chosen and the use of words with negative emotional content, such as 'pain', or those implying failure, such as 'should' or 'try', were avoided.

In the first session all women taught hypnosis experienced a hypnotic induction using a standard 'eye fixation' technique. This involved asking the women to focus upon an object on the ceiling, such as a spot or image, while counting slowly backwards from 300. Suggestions for relaxation, absorption and eye heaviness are suggested. Eye closure enhances focus and facilitates guided daydreaming. Imagery for labour includes asking the woman to imagine a beach where she could be relaxed and watch the waves (like contractions) building and then gradually rolling on to the shore as they break and wash away (rest period between contractions). Some women were able to use such imagery to increase comfort by dissociating from discomfort (mentally stepping out of their own body) or by creating numbness and anaesthesia on their abdomen through imagining that they were sitting in a spa full of local anaesthetic.

In hypnosis women appeared to experience time distortion, where time can seem longer or shorter than it actually is. This phenomenon can be utilized via suggestions, to prolong the perceived duration of rest periods, and to facilitate a perceived shortening of the contractions. Although these suggestions may seem incongruous during the alert, awake state, during hypnosis the majority of women appear to have accepted such imagery and suggestions uncritically. More examples of suggestions used during labour and in the antenatal sessions had been adapted from those detailed previously in standard hypnotherapy texts<sup>2,17</sup> (Figure 1). These suggestions are most effective when the patient is distracted by a contraction and not consciously listening to what is being said.

Women taught self-hypnosis were reviewed after the birth and the use of epidural analgesia or combined spinal-epidural analgesia during labour, the need for augmentation and the mode of delivery were recorded. Any adverse events were also noted prior to discharge from hospital. **Medical complications** such as pre-eclampsia were not contraindications for training in self-hypnosis techniques.

**Suggestions for confidence, control and relaxation:** “Take a slow deep breath in and hold it for 2-3 seconds. Notice as your lungs fill up with oxygen how you start to feel stronger and more in control. As you slowly breathe out you will find all the muscles and ligaments of the body starting to unwind and relax. Every time you hear the word “relax” you will find yourself becoming more comfortable”.

**Use of trance logic:** “The stronger the contraction the more effective it is and the nearer you are to seeing your baby, therefore the stronger you can feel.”

**Dissociation:** “As women focus on their breathing they often feel as if ... they are looking at themselves in a movie or in a mirror with the contractions happening in the distance.”

**Time distortion suggestion:** “You already know that every contraction is followed by a rest ... as you have a contraction you can focus on the rest ... for some reason when women look forward to their rest period the contractions seem more distant and the rest seems ... longer than it really is.”

**Ego strengthening and anxiolysis suggestions:** “As you count your breaths during a contraction ...this does two things... it allows women to appreciate that the rest is near and that allows contractions to seem shorter than they really are. Counting also facilitates your focus on breathing. When the lungs are filled with oxygen you feel stronger and more in control ...as you breathe out you feel more relaxed ... as if ... moving away from the contraction. Every time you breathe in ... notice yourself feeling stronger ... more in control ... more able to cope ... as you breathe out as if ... a balloon is deflating ... a little tension drifts away in to the atmosphere ... as you find yourself relaxing automatically.”

**Imagery to facilitate cervical dilatation:** “As you imagine the head of the baby putting a pullover on ... the neck of the pullover dilates ... Every time there is a contraction the neck of the pullover stretches and relaxes getting wider and wider, thinner and thinner until at full dilatation you know you will soon see your baby.”

**Suggestions for 2nd stage:** “All the rests following each contraction have allowed you to store energy ... more than enough energy to push effectively to give birth and in the next contraction or the one after, you will find yourself re-energised with more than enough to give birth in the easiest most comfortable way possible for you and the baby.”

**Suggestions for crowning:** “The progesterone, oestrogen and other natural substances in your body have allowed the ligaments and muscles of the pelvis and perineum to become very elastic and stretchy. As you feel pressure in your pelvis and bottom the muscles will stretch, stretch, stretch ... and relax. This allows you to feel that you have heaps of room to give birth. As the skin of the perineum / bottom stretches and relaxes it starts to feel numb allowing you to give birth more comfortably than otherwise.”

**Amnesia suggestion:** “Once you’ve had a contraction forget about it ... it’s done its job and got you closer to your baby ... .”

FIGURE 1: Types of suggestions used in antenatal preparation for childbirth or during labour to facilitate anxiolysis and analgesia or epidural catheter placement.

### Analyses

Descriptive statistics are presented where appropriate. Augmentation rates, use of epidural analgesia and mode of delivery for women taught antenatal self-hypnosis were compared with birth outcome data of women delivering after 37 weeks gestation for the year 2003. This data is routinely collected by the clinical information service (CIS) at our institution and an extension of our original ethical committee approval was granted for us to perform this comparison. The occasional combined spinal-epidural

technique (CSE) used for labour analgesia, both in the course of our audit and by the CIS, was reported as an epidural technique. Birth outcome data of nulliparous and multiparous women with singleton pregnancies were analysed separately. Chi square and Fisher’s exact tests were used where appropriate. We used the review manager computer program (Revman 4.2) of the Cochrane collaboration for calculation of relative risk (RR) with 95% confidence intervals (CI). A *P* value of <0.05 was considered to be statistically significant.

## RESULTS

A total of 77 women referred from several sources (Table 1) were taught self-hypnosis in preparation for childbirth. Three women had previous experience of hypnosis. No woman attending self-hypnosis training refused collection of audit data or the publishing of de-identified data. Of 76 women assessed for hypnotizability, 5 (7%) were rated to be of low hypnotizability, 34 (44%) as moderate and 37 (48%) as of high hypnotizability. Table 2 shows birth outcomes, such as mode of delivery, epidural utilization and augmentation rates, of the 77 women who received antenatal hypnosis preparation for labour compared with birth outcome data of women giving birth after 37 weeks gestation in our maternity unit during 2003.

## DISCUSSION

We have summarized the clinical experience of two obstetric anaesthetists (AMC, MIA) who offer hypnosis and suggestion as a means of psychological preparation for childbirth. Our findings were that nulliparous women taught self-hypnosis had a lower rate of utilization of epidural analgesia and a decreased requirement for labour augmentation with oxytocics compared with the population not taught self-hypnosis. These results are consistent with both

recent research and previous anecdotal experience that women find hypnosis useful as an adjunct for labour analgesia<sup>14,15,18</sup>. Previous studies have suggested that nulliparous women may differ in their response to hypnosis compared with multiparous women<sup>19</sup> and our experience supports this. We did not collect specific information about the effect of self-hypnosis on the experience of caesarean section. However, two women in the self-hypnosis group who required caesarean section spontaneously reported that they found self-hypnosis useful for relaxation and that it enhanced a sense of control during both anaesthesia and surgery. A measure of relaxation and sense of control during caesarean section are outcomes of interest in a future study.

The major limitation of this study is that women taught hypnosis were "self-selected" and had, generally, expressed an interest in hypnosis. Although the reasons and mechanism for referral by health professionals were not comprehensively evaluated, several women expressed a specific interest in hypnosis, and/or wished to avoid epidural analgesia and other medical interventions. Women intending "natural childbirth" or wishing to avoid an epidural might be expected to have a low rate of epidural analgesia and a reduction in other interventions<sup>20</sup>. Multiparous women taught self-hypnosis frequently reported that they had experienced difficulties with childbirth and were dissatisfied with their experience. Many nulliparous women expressed anxiety or fear related to childbirth and such women might be expected to have increased intervention rates. A proportion of women taught hypnosis used epidural analgesia and required other interventions. Possible explanations include low responsiveness to hypnosis

TABLE 1  
Referral sources of women receiving antenatal self-hypnosis training in preparation for childbirth

Referral source	Number of Women (n=77)
Midwife/nurse	50 (65%)
Obstetrician	9 (12%)
Anaesthetist	5 (6%)
Patient request	13 (17%)

TABLE 2  
Delivery details of nulliparous and multiparous women who received antenatal hypnosis compared with birth outcome data of women giving birth after 37 weeks gestation in our maternity unit during 2003 (control)

	Nulliparous			Multiparous		
	Hypnosis n=50 (%)	Control n=1436 (%)	RR (95% CI)	Hypnosis n=27 (%)	Control n=1813 (%)	RR 95% CI
Elective LSCS	4 (8)	60 (4)	1.91 (0.72, 5.06)	2 (7)	275 (15)	0.49 (0.13, 1.86)
Emergency LSCS	8 (16)	321 (22)	0.72 (0.38, 1.36)	3 (11)	164 (9)	1.23 (0.42, 3.61)
SVD	29 (58)	730 (51)	1.14 (0.90, 1.45)	22 (82)	1246 (69)	1.19 (0.99, 1.42)
SVD Epidural	6 (12)	285 (20)	0.60 (0.28, 1.29)	4 (15)	355 (20)	0.76 (0.30, 1.88)
SVD No epidural*	23 (46)	455 (32)	1.45 (1.07, 1.98)	18 (67)	981 (54)	1.23 (0.94, 1.61)
Epidural*	18 (36)	765 (53)	0.68 (0.47, 0.98)	5 (19)	529 (29)	0.63 (0.29, 1.40)
Epidural/spont.lab	12 (24)	424 (30)	0.81 (0.49, 1.34)	2 (7)	285 (16)	0.47 (0.12, 1.80)
Epidural/aug*	6 (12)	434 (30)	0.40 (0.19, 0.84)	3 (11)	194 (11)	1.04 (0.35, 3.04)
Aug rate*	9 (18)	523 (36)	0.49 (0.27, 0.90)	5 (19)	310 (17)	1.08 (0.49, 2.40)

\* $P < 0.05$  in favour of hypnosis for nulliparous women

RR=relative risk, CI=confidence interval, LSCS=lower segment caesarean section, SVD=spontaneous vaginal delivery, Aug=augmentation with oxytocics, spont.lab=spontaneous labour.

and the presence of medical or obstetric conditions for which epidural analgesia is indicated, but the exact reasons for epidural analgesia, unrelated to pain and anxiety, were not collected in this study. This would be an outcome of interest in a future comparative trial. Epidural techniques were the only modes of labour analgesia collected by our institution's CIS and therefore the only available mode for comparison with women taught self-hypnosis. A detailed and comprehensive comparison of all analgesia requirements will, however, be required in a future study. Harmon et al<sup>21</sup> and Freeman et al<sup>22</sup> found an association between women of high hypnotizability and reduced need for labour analgesia when compared with women of low hypnotizability. Our observational study is too small to confirm these findings and further research is required.

Anaesthetists have criticised hypnotherapy as too time-consuming<sup>23</sup> for routine use. The possible benefits of hypnotherapy, such as an increased incidence of spontaneous birth, reduced analgesia requirements and a reduced need for labour augmentation<sup>15</sup> may decrease costs associated with anaesthetic, obstetric and midwifery care. In addition the costs, both human and economic, of administering central neuraxial techniques and treating their serious complications may be offset by the costs of antenatal hypnosis training. Cost benefit analyses of implementing a hypnotherapy service have not been formally investigated in the obstetric setting, but Lang and colleagues have shown that hypnosis during interventional radiological procedures produces both clinical benefits and reduced costs<sup>24</sup>.

Nearly half the anaesthetists in South Australia have expressed an interest in learning more about hypnotic techniques<sup>23</sup>. Our own interest in this topic has had an impact on the attitudes and communication of our staff, both medical and nursing. Medical referrals have increased over the study period and hypnosis or the use of suggestion was found to be very acceptable to midwives<sup>25</sup>. The implementation of hypnosis techniques would represent a useful additional tool for the obstetric anaesthetist if previous research<sup>15,26</sup> and our own clinical experience is confirmed. A large, well designed adequately powered randomized controlled trial is required to clarify the efficacy and safety of antenatal hypnosis preparation for childbirth.

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## APPENDIX: GLOSSARY

### *Arm levitation*

This refers to the involuntary capacity of muscles to respond to thoughts feelings or ideas. For example by imagining that string round the wrist is attached to a large helium balloon. The hypnotized patient experiences the arm floating upwards apparently on its own. This involuntariness is a classic suggestion response.

### *Dissociation*

A detachment from the immediate environment, similar to dreaming, where where you see yourself doing something from outside the body. This phenomenon of hypnosis is useful in pain relief.

### *Ego strengthening*

A psychological conditioning technique that can be utilized in hypnosis to provide the patient with a coping method to alter a problematic emotional state.

### *Eye catalepsy*

An inhibition of voluntary eye movement, that is reflective of the absorption of the hypnotic experience, so that they remain motionless. This phenomenon can be used to assess responsiveness to suggestion.

### *Time distortion*

This experience can occur spontaneously or be facilitated by appropriate suggestions. Time is experienced as subjectively shorter or longer than objective measurement.

### *Trance logic*

This refers to a suggested reality in hypnosis that would not be normally accepted in the awake state. For example, "the stronger the contraction becomes the stronger you will feel."