

Working with pain in labour

An overview of evidence

By Nicky Leap, professor of midwifery, University of Technology, Sydney, Miranda Dodwell, NCT researcher, and Mary Newburn, NCT head of research and information

This overview presents the case for developing a 'working with pain' approach to the care and support of women during labour. It sets out the rationale for this approach before comparing it with widely held beliefs and practices in the UK. Evidence to support a working with pain approach is presented.

'Working with pain' - beliefs and practices

The 'working with pain' approach to the care and support of women during labour was developed as part of a masters degree.¹ As a result of an extensive literature search on pain, drawing on multi-disciplinary discourses and undertaking semi-structured interviews with midwives, it was found that attitudes to pain in labour could be separated into two paradigms, that of 'working with pain' and that of 'pain relief'.

The 'working with pain' paradigm includes the belief that there are long-term benefits to promoting normal birth in terms of women's experiences and lives, and that pain plays an important role in the physiology of this process.

At the beginning of labour, pain allows a woman to realise that she is about to give birth: to find a place of safety and gather people around her who will support her. As labour continues, the

pain triggers a cascade of neurohormones that control the process; the pain changes and shows that labour is progressing as it should. The pain of labour marks the enormous change that is occurring in a woman's life – her transition to motherhood; the complex interplay of hormones and chemical changes helps her prepare to welcome her baby. Her joy at becoming a mother can be heightened by the contrast with the pain of labour, together with a sense of achievement and triumph at the completion of a huge and challenging task.

When labour is progressing normally – that is when contractions are normal and the baby is well positioned – it seems that, with support and encouragement, women are able to cope with the pain they experience.¹⁻⁴ This is due to the production of the body's natural pain-relieving opiates, endorphins.⁵⁻⁷ Where midwives and birth supporters are using the working with pain approach, they try to create an environment which encourages the production of endorphins and to avoid creating the circumstances that inhibit their production. In contrast, if a woman experiencing normal labour is offered pharmacological pain relief, she will find it irresistible, as labour involves both pain and uncertainty, which can be emotionally demanding and exhausting. The use of pharmacological pain relief

not only affects a woman's perception of labour, it increases the use of other medical interventions, reducing the chances of having a normal birth.⁸

In some circumstances, the pain can be described as 'abnormal pain' according to the working with pain approach, for example where the baby is poorly positioned or labour has been accelerated with drugs. Women experiencing abnormal pain are likely to have a genuine need for pharmacological pain relief.

In contrast, the 'pain relief' paradigm is characterised by the belief that no women need suffer the pain of labour and it is a kindness to alleviate it by a variety of pharmacological methods of pain relief. Women are offered a 'pain relief menu' including the pros and cons of each method to enable them to make an 'informed choice'. Women may also receive the implied message that it is not possible to get through labour without resorting to pain relief. Many health professionals also promote the use of pain relief because they feel disturbed by the noise and behaviour of women labouring naturally.

Mainstream beliefs and practice

Historically, the childbirth culture might be viewed as being consistent with a

Table 1. Methods used to relieve pain. Adapted from Healthcare Commission Survey: Women's experiences of maternity care in the NHS in England¹²

Response to: 'During your labour and birth, did you use any of the following to help relieve the pain?'
[n = 26,000 women who gave birth in February 2007 from 135 participating NHS trusts]

Methods of pain relief	Natural methods eg: breathing massage	Water or a birthing pool	TENS Machine	Gas and air	Pethidine injection or similar	Epidural or similar	I did not use any pain relief
Median rate for trusts	48.1%	10.7%	19.7%	80.7%	34.1%	29.4%	6.6%
Variation between trusts	31 - 61%	0 - 28%	2 - 47%	54 - 95%	5 - 66%	13 - 45%	0 - 21%

Taken from: <http://www.birthchoiceuk.com/HealthCareCommissionSurvey/Q220.htm>

'working with pain' approach. Women were supported by other women when they gave birth. This began to change in the mid 19th century with the advent of obstetric anaesthesia and the notion of 'saving women from pain'.⁹ The dominant cultural approach to labour in high income countries is now the 'pain relief paradigm' in which using some form of pharmacological pain relief in labour is the norm.¹⁰ The pain relief approach is supported by NICE clinical guidelines for the NHS which state that women should be supported in making informed choices about pain relief.¹¹

A recent survey of 26,000 women's experiences of maternity care in the NHS in England identified that 34.1% of women in labour had an opiate injection and 29.4% had an epidural, with wide variations in the use of different methods of pain relief across trusts.¹² Only a few did not use any pain relief in labour (6.6%), with varying rates between NHS trusts of 0% to 21% [Table 1].

In two linked studies, Green et al found evidence of growing use of pharmacological pain relief, particularly epidural use, in the period 1987-2000, yet the number of women who were fearful of labour pain increased significantly.^{13,14} Their follow-up study showed an increase in women feeling 'frightened', 'powerless' and 'helpless' in labour.¹⁴ They found that as well as an increasing proportion of women expecting to have an epidural in labour, there was an increase in the number of women who did not want an epidural but ended up with one.¹⁴ This increase in fear over the last two decades is reported in several high income countries.¹⁴⁻¹⁶

Recent national data for England show that in the period 1995-2006, overall epidural rates have risen little (27%-28%), and use of pethidine has dropped (42%-33%).¹⁷ This change in the trend during the 1990s may reflect a growing awareness of the negative consequences of drug use in labour¹⁸⁻²⁰ and change in government policy towards more midwife-led care and greater information and choice for women.^{21,22}

An English study of over 1000 women, published in 1993, found that doctors', and to a lesser extent midwives', approaches to easing pain tended to be restricted to pharmacological methods; professionals were more likely to agree

with each other about the efficacy of different methods than with women.²³ Although attitudes and behaviour may have changed since then, in the 2007 study of women's experiences of NHS maternity care in England, only 10.7% of women reported that they had used water or a birthing pool and almost 15% reported that they were not encouraged at all to move around and choose the position that made them feel most comfortable.¹²

There is strong evidence that a woman's satisfaction with the experience of childbirth is positively affected by having midwife-led care,²⁴ greater continuity of caregiver,²⁴ continuous support during labour,²⁵ the quality of her relationship with her caregiver,²⁶ and the quality of support provided.²⁶ Despite this, many NHS trusts provide highly fragmented care, with 77.9% of women

recently reporting they had not previously met any of the staff who looked after them during labour (NHS trust range, 56% - 91%).¹² Many women saw a succession of different midwives (see Table 2), and a quarter were left alone during labour or shortly after the birth at a time when it worried them to be alone,¹² replicating previous similar findings.¹⁷

Working with pain – the evidence

What women want

There is evidence that the majority of women value giving birth with a minimum of drugs, provided that they feel they can cope. Although the proportion of women preferring to give birth 'drug free' or with a 'minimum of drugs to keep the pain manageable' fell during the period 1987-2000 (see Table 3), it

Table 2. Number of midwives caring for individual women in labour. Adapted from Healthcare Commission Survey: Women's experiences of maternity care in the NHS in England¹²

Response to: Altogether, how many different midwives looked after you during your labour and the birth of your baby?

Number of midwives	One	Two	Three	Four	Five or More
All Trusts average [n = 153]	19.9%	37.3%	20.8%	10.1%	11.9%
Variations between Trusts	8 - 33%	27 - 48%	11 - 30%	4 - 19%	0 - 24%

Taken from: <http://www.birthchoiceuk.com/HealthCareCommissionSurvey/Q232.htm>

Table 3: Preferences for coping with pain during in labour

	1987		2000	
	Primips n=289	Multips n=443	Primips n=508	Multips n=682
Most pain free possible	6	11	21	21
Minimum drugs	71	66	65	65
Drug free	23	23	13	14
Total	100	100	100	100

Source: Green J, Baston H, Easton S et al 2003 Greater expectations? Inter-relationships between women's expectations and experiences of decision making, continuity, choice and control in labour, and psychological outcomes: summary report. Mother & Infant Research Unit, Leeds¹⁴

was still the case that four in five women wanted either no drugs or a minimum of drugs. Approximately one in five women said their priority was for their labour to be as pain-free as possible.¹⁴

Although there has been a shift in attitudes and the use of epidurals, particularly prior to 1995 in England, with more women relying on an epidural to help them cope with fear and pain, studies in a range of high income countries have demonstrated that effective forms of pain relief are usually not associated with greater satisfaction with the experience of birth for women who have uncomplicated labours^{14,26,27} or with women's sense of psychological and physical wellbeing.^{28,29} Indeed, studies have shown that women who use non-pharmacological methods of pain relief are more likely to be satisfied with their experience of labour and birth than those who used pethidine or epidurals.^{14,23}

Numerous observational studies show that when culturally diverse groups of women have been supported to cope with the pain of labour they have described childbirth as a difficult, yet empowering, experience, providing a sense of achievement.³⁰⁻³⁴ However, for those women who positively 'desire or need' pharmacological pain relief, satisfaction is related to their expectations being met.²⁶

Continuity of midwifery care

It is easier for women and for midwives to adopt a working with pain approach when women know the midwife caring for them during labour.^{9,35} A systematic review showed that women receiving midwife-led care were nearly eight times more likely to be attended in labour by a midwife they knew than those assigned to other models of care, were more likely to use no pain relief and to have a higher perception of control.²⁴ Continuity of caregiver throughout pregnancy, labour and birth reduces the amount of pain relief women have during labour, and increases their satisfaction with their maternity care, perhaps as a result of developing a trusting relationship.³⁶⁻³⁹

Emotional support

Support has a major impact on how women cope with pain in labour. A Cochrane review of continuous support for women in labour concluded that

'(emotional) support, comfort measures, information and advocacy may enhance normal labour processes as well as women's feelings of control and competence, and thus reduce the need for obstetric intervention'.²⁵ In early labour, when the majority of women are at home without professional support, comfort and encouragement from family members, a friend or doula is important.⁴⁰ Without support, women are more likely to go to hospital before labour is well established and to have epidural analgesia and other interventions.⁴¹⁻⁴⁴ Once admitted, a birth companion continues to play an important role, offering love, reassurance, praise and, sometimes, acting as an advocate.

Women have described how midwives supporting and guiding them through pain, on their own terms, enabled them to feel confident and positive about their capabilities and inner strengths.^{31,32,45} Supportive interactions have more impact on women's experience than the level of pain per se.^{26,30} Discussion about potential support activities is important to pregnant women⁴⁶ and a birth talk at 36 weeks provides an opportunity to explore the nature of labour pain with women and their birth companions.⁴⁷

The physical environment and philosophy of care

Opportunities to adopt a working with pain approach can be affected by the environment in which a woman labours.⁹ Privacy and protection from disturbance promote neuro-hormonal cascades of a woman's endogenous oxytocin and opioids, optimising the physiological process of labour and her ability to cope with pain.⁴⁸ She may go into an altered state of consciousness in which her mind lets go and the involuntary processes takes over.^{35,48}

The philosophy of care provided in birth centres and at home is usually consistent with a 'social model of care' in which birth is seen as a normal physiological process and it is usual for women to labour without use of drugs for pain relief.⁴⁹⁻⁵² Those developing new birth centres focus on creating a social, 'homely' space.⁵³ Observational studies indicate that women perceive home birth as less painful than hospital birth^{23,54-56} and that women planning to giving birth at home or in a birth centre are less

likely to use epidural analgesia.^{11,54,57} Increasing privacy and non-disturbance can be addressed in all birthing environments.^{29,58,59}

Natural and low-technology comfort aids

There are a number of low-tech comfort aids that can help women cope with labour. These include immersion in water and other self-administered methods of easing pain. Immersion in water during the first stage of labour significantly reduces women's perception of pain and use of epidural/spinal analgesia.⁶⁰ Women using upright positions are also less likely to have epidural analgesia.^{11,61}

Despite varying effectiveness in relieving pain, Simkin's systematic review indicated that the majority of women felt positive about using acupuncture,



massage, transcutaneous electrical nerve stimulation (TENS), hypnosis, relaxation and breathing, aromatherapy and the use of music.^{62,63} A recent Cochrane review of complementary and alternative therapies reported that trials of acupuncture and self-hypnosis showed a decreased need for pain relief, including epidural analgesia, and greater satisfaction compared with controls. No differences were seen for women receiving aromatherapy, or audio analgesia.⁶⁴

Preparing women and their partners for working with pain during labour

There are a number of challenges facing midwives and childbirth educators in preparing women and their partners for working with pain during labour, particularly those preparing parents for having their baby in a hospital labour ward.

A systematic review of women's expectations and experiences of labour showed that although some women

hope for a drug-free labour they may still go into labour with the expectation that they will need some form of pain relief.⁶⁵ This suggests an underlying lack of confidence in their ability to cope with the pain of labour. During the labour itself, many women, including those who had hoped for a labour free of pharmacological pain relief, found that they had underestimated the pain that they

"It is easier for women and for midwives to adopt a working with pain approach when women know the midwife caring for them during labour."

experienced and that they needed pain relief. The review concluded that inaccurate or unrealistic expectations about pain may mean women are not prepared appropriately for labour ('the expectation-experience gap').⁶⁵

The same review described how many women wanted to remain in control during labour. For some women this meant participating in decision-making about the management of their labour and birth whereas for others it was about feeling in control of their emotions and

behaviour in labour.^{65,66} However, in labour their degree of reported control was less than hoped for.⁶⁵ As women's fears about pain in labour are often related to anxieties about losing control, addressing this antenatally is important if women are to feel confident and satisfied with their experience of childbirth.^{34,67}

Parents can be helped to develop strategies for coping with pain based on their own repertoire for coping with pain and anxiety.⁴⁶ Women and practitioners also need to be well informed about factors that both facilitate and hinder straightforward labour and birth and the ability to adopt a working with pain approach.⁴⁶

Summary

The working with pain approach is based on the principle that pain is one aspect of the physiology of normal labour; to be respected, not to be feared. Many women want to avoid pharmacological pain relief and, where labour is progressing normally, factors including a trusting relationship with caregivers, continuous support, midwife-led care, preparation for labour, a home or birth centre setting, and use of a birth pool each help to make this a realistic expectation.

Key points

- According to the working with pain approach, given support and encouragement, women are able to cope with normal labour pain.
- Privacy, peacefulness, and absence of distractions promote the production of the body's natural pain relievers, endorphins.
- Epidural use is decreased where there is continuity of care and continuous support in labour from trusted caregivers and birth companions.
- Birth planned at home or in a birth centre is associated with reduced epidural use.
- Immersion in water, choosing comfortable positions and other self help techniques help women to cope with pain in labour.
- Feeling emotionally supported and in control affects most women's satisfaction with labour more than the experience of pain itself.

References

1. Leap, N. *A midwifery perspective on pain in labour*. MSc Thesis London: South Bank University; 1997.
2. Dick Read G. *Childbirth without fear: the principles and practice of natural childbirth*. 3rd edition London: William Heinemann; 1954.
3. Gaskin IM. *Spiritual midwifery*. Summertown, TN: The Book Publishing Company; 1977.
4. England P, Horowitz R. *Birth from within: an extra ordinary guide to childbirth preparation*. London: Souvenir Press; 2007.
5. Jouppila R, Jouppila P, Karlqvist K, et al. Maternal and umbilical venous plasma immunoreactive beta-endorphin levels during labor with and without epidural analgesia. *Am J Obstet Gynecol* 1983;147(7):799-802.
6. Brinsmead M, Smith R, Singh B, et al. Peripartum concentrations of beta endorphin and cortisol and maternal mood states. *Aust.N.Z J Obstet Gynaecol*. 1985;25(3):194-7.
7. McLean M, Thompson D, Zhang HP, et al. Corticotrophin releasing hormone and beta-endorphin in labour. *Eur J Endocrinol*. 1994;131(2):167-72.
8. Maternity Care Working Party. *Making normal birth a reality. Consensus statement from the Maternity Care Working Party: our shared views about the need to recognise, facilitate and audit normal birth*. National Childbirth Trust; Royal College of Midwives; Royal College of Obstetricians and Gynaecologists; 2007. Available from: <http://www.appg-maternity.org.uk/>
9. Leap N, Anderson T. The role of pain in normal birth and the empowerment of women. In: Downe S, editor. *Normal child birth: evidence and debate*. 2nd edition. Edinburgh: Churchill Livingstone; 2008. pp. 29-46
10. Halls KL. Maternal satisfaction regarding anaesthetic services during childbirth. *British Journal of Midwifery* 2008;16(5):296-301.
11. National Collaborating Centre for Women's and Children's Health. *Intrapartum care: care of healthy women and their babies during childbirth*. Clinical Guideline. London: RCOG Press; 2007. Available from: <http://tinyurl.com/NICE-ICCG>
12. Healthcare Commission. *Women's experiences of maternity care in the NHS in England: key findings from a survey of NHS trusts carried out in 2007*. London: Commission for Healthcare Audit and Inspection; 2007. Available from: <http://tinyurl.com/HCom-MatSurvey2007>
13. Green JM, Coupland VA, and Kitzinger JV. *Great expectations: a prospective study of women's expectations and experiences of childbirth*. Vol 1. Cambridge: Child Care and Development Group, University of Cambridge; 1988.
14. Green JM, Baston H, Easton S et al. *Greater expectations? Inter-relationships between women's expectations and experiences of decision making, continuity, choice and control in labour, and psychological outcomes: summary report*. Leeds: Mother & Infant Research Unit; 2003. Available from: <http://tinyurl.com/MIRU-GExpect>
15. Horowitz ER, Yogev Y, Ben Haroush A, et al. Women's attitude toward analgesia during labor—a comparison between 1995 and 2001. *Eur J Obstet Gynecol Reprod Biol* 2004;117(1):30-2.
16. Fenwick J, Hauck Y, Downie J, et al. The childbirth expectations of a self-selected cohort of Western Australian women. *Midwifery* 2005;21(1):23-35.
17. Redshaw M, Rowe R, Hockley C et al. *Recorded delivery: a national survey of women's experiences of maternity care 2006*. Oxford: National Perinatal Epidemiology Unit, University of Oxford; 2007. Available from: <http://tinyurl.com/NPEU-RecordDel>
18. Lieberman E, O'Donoghue C. Unintended effects of epidural analgesia during labor: a systematic review. *Am J Obstet Gynecol* 2002;186(5 Suppl Nature):S31-S68.
19. Anim-Somuah M, Smyth R, and Howell C. *Epidural versus non-epidural or no analgesia in labour*. *Cochrane Database of Systematic Reviews Issue 4*, 2005. Available from: www.library.nhs.uk/Default.aspx
20. Hunt S. Pethidine: love it or hate it? *MIDIRS Midwifery Digest* 2002;12(3):363-5.
21. Department of Health. *Changing childbirth: Part 1. Report of the expert maternity group*. London: HMSO; 1993.
22. Department of Health. *National Service Framework for Children, Young People and Maternity Services*. London: Department of Health; Department for Education and Skills; 2004. Available from: <http://tinyurl.com/DH-NSF-CYPMS>
23. Chamberlain G, Wraight A, Steer P editors. *Pain and its relief in childbirth: the results of the national survey conducted by the National Birthday Trust*. Edinburgh: Churchill Livingstone; 1993.
24. Hatem M, Sandall J, Devane D, Soltani H, and Gates S. *Midwife-led versus other models of care for childbearing women*. *Cochrane Database of Systematic Reviews 2008*, issue 4. Art. No.: CD004667. DOI: 10.1002/14651858.CD004667.pub2. Available from: www.library.nhs.uk/Default.aspx
25. Hodnett ED, Gates S, Hofmeyr GJ, and Sakala C. *Continuous support for women during childbirth*. *Cochrane Database of Systematic Reviews 2007*, Issue 3. Art. No.: CD003766. Updated. Available from: <http://www.library.nhs.uk/Default.aspx>
26. Hodnett ED. Pain and women's satisfaction with the experience of childbirth: a systematic review. *American Journal of Obstetrics and Gynecology* 2002;186(5 Suppl Nature):S160-S172.
27. Heinze SD, Sleigh MJ. Epidural or no epidural anaesthesia: relationships between beliefs about childbirth and pain control choices. *Journal of Reproductive & Infant Psychology* 2003;21(4):323-33.
28. Gross MM, Hecker H, Keirse MJ. An evaluation of pain and "fitness" during labor and its acceptability to women. *Birth* 2005;32(2):122-8.
29. Lowe NK. The nature of labor pain. *Am J Obstet Gynecol* 2002;186(5 Suppl Nature):S16-S24.
30. Callister LC, Khalaf I, Semenic S, et al. The pain of childbirth: perceptions of culturally diverse women. *Pain.Manag.Nurs*. 2003;4(4):145-54.
31. Lundgren I, Dahlberg K. Women's experience of pain during childbirth. *Midwifery* 1998;14(2):105-10.
32. Halldorsdottir S, Karlsdottir SI. Journeyming through labour and delivery: perceptions of women who have given birth. *Midwifery* 1996;12(2):48-61.
33. Niven CA, Murphy-Black T. Memory for labor pain: a review of the literature. *Birth* 2000;27(4):244-53.
34. McCrea H, Wright ME, Stringer M. Psychosocial factors influencing personal control in pain relief. *Int J Nurs Stud*. 2000;37(6):493-503.
35. Anderson, T. *To the ends of the earth and back: women's experiences of the second stage of labour*. MSc Advanced Clinical Practice (Midwifery) University of Surrey; 1997.
36. Reed B. The Albany midwifery practice (1). *MIDIRS Midwifery Digest* 2002;12(1):118-21.
37. Reed B. The Albany midwifery practice (2). *MIDIRS Midwifery Digest* 2002;12(2):261-4.
38. McCourt C, Stevens T. Continuity of carer: what does it mean and does it matter to midwives and birthing women? *Canadian Journal of Midwifery Research and Practice* 2005;4(3):10-20.
39. Page LA, Cooke P, Percival P. Providing one-to-one practice and enjoying it. In: Page LA, Percival P, editors. *The new midwifery: science and sensitivity in practice*. Edinburgh: Churchill Livingstone; 2000. pp. 123-40
40. Simkin P, Anчета R. *The labor progress handbook: early interventions to prevent and treat dystocia*. Oxford:

- Blackwell Science; 2000.
41. Holmes P, Oppenheimer LW, Wen SW. The relationship between cervical dilatation at initial presentation in labour and subsequent intervention. *BJOG* 2001;108(11):1120-4.
 42. *All Wales clinical pathway for normal labour*. Cardiff: 2004. Available from: <http://tinyurl.com/WNHS-NLabourCPath>
 43. McNiven PS, Williams JJ, Hodnett E, et al. An early labor assessment program: a randomized, controlled trial. *Birth* 1998;25(1):5-10.
 44. Klein M, Lloyd I, Redman C, et al. A comparison of low-risk pregnant women booked for delivery in two systems of care: shared-care (consultant) and integrated general practice unit. II. Labour and delivery management and neonatal outcome. *Br J Obstet Gynaecol*. 1983;90(2):123-8.
 45. Leap N, Edwards N. The politics of involving women in decision making. In: Page LA, Campbell R, editors. *The new midwifery: science and sensitivity in practice*. (2nd edition). London: Churchill Livingstone; 2006. pp. 97
 46. Escott D, Spiby H, Slade P, et al. The range of coping strategies women use to manage pain and anxiety prior to and during experience of labour. *Midwifery* 2004;20(2):144-56.
 47. Kemp J, Sandall J. Normal birth, magical birth: the role of the 36-week birth talk in caseload midwifery practice. *Midwifery* 2008;10.1016/j.midw.2008.07.002 [doi].
 48. Foureur M. Creating birth space to enable undisturbed birth. In: Fahy K, Foureur M, Hastie C, editors. *Birth territory and midwifery guardianship: theory for practice, education and research*. Edinburgh: Books for Midwives; 2008. pp. 57-78
 49. Walsh D, Newburn M. Towards a social model of childbirth: part one. *British Journal of Midwifery* 2002;10(8):476-81.
 50. Walsh D, Newburn M. Towards a social model of childbirth: part two. *British Journal of Midwifery* 2002;10(9):540-4.
 51. Wagner M. Pursuing the birth machine. *Midwifery Today and Childbirth Education* 1996;(37):33-4, 51.
 52. Edwards G, Byrom S editors. *Essential midwifery practice: public health*. Oxford: Blackwell Publishing; 2007.
 53. Shallow H. The birth centre project. In: Kirkham M, editor. *Birth centres: a social model for maternity care*. London: Books for Midwives; 2003. pp. 11-24
 54. Chamberlain G, Wraight A, Crowley P editors. *Home births: the report of the 1994 confidential enquiry by the National Birthday Trust Fund*. Carnforth, Lancs: Parthenon Publishing; 1997.
 55. Morse JM, Park C. Home birth and hospital deliveries: a comparison of the perceived painfulness of parturition. *Res Nurs Health* 1988;11(3):175-81.
 56. Sandall J, Davies J, and Warwick C. *Evaluation of the Albany Midwifery Practice: Final report March 2001*. London: King's College London; 2001.
 57. Saunders D, Boulton M, Chapple J et al. *Evaluation of the Edgware Birth Centre*. Edgware: Barnet Health Authority; 2000.
 58. Newburn M. Promoting and protecting normal birth. *Pract Midwife* 2009;12(6):4-6.
 59. Brodie P, Leap N. From ideal to real: the interface between birth territory and the maternity service organisation. In: Fahy K, Foureur M, Hastie C, editors. *Birth territory and midwifery guardianship*. Edinburgh: Books for Midwives; 2008. pp. 149-65
 60. Cluett ER, Burns E. *Immersion in water in labour and birth*. *Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD000111. DOI: 10.1002/14651858.CD000111.pub3. Available from: www.library.nhs.uk/Default.aspx
 61. Lawrence A, Lewis L, Hofmeyr GJ, Dowswell T, and Styles C. *Maternal positions and mobility during first stage labour*. *Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD003934. DOI: 10.1002/14651858.CD003934.pub2. Available from: www.library.nhs.uk/Default.aspx
 62. Simkin PP, O'hara M. Nonpharmacologic relief of pain during labor: systematic reviews of five methods. *Am J Obstet Gynecol* 2002;186(Suppl Nature):S131-S159.
 63. Simkin P, Bolding A. Update on nonpharmacologic approaches to relieve labor pain and prevent suffering. *Journal of Midwifery & Women's Health* 2004;49(6):489-504.
 64. Smith CA, Collins CT, Cyna AM, and Crowther CA. *Update: Complementary and alternative therapies for pain management in labour (Review)* *Cochrane Database of Systematic Reviews* 2006, Issue 4. Art. No.: CD003521. DOI: 10.1002/14651858.CD003521.pub2. Available from: www.library.nhs.uk/Default.aspx
 65. Lally JE, Murtagh MJ, MacPhail S, et al. More in hope than expectation: women's experience and expectations of pain relief in labour: a review. *BMC Medicine* 2008;6(7):1-10.
 66. Niven C. Coping with labour pain: the midwife's role. In: Robinson S, Thomson AM, editors. *Midwives, research and childbirth*. Volume 3. London: Chapman & Hall; 1994. pp. 91-119
 67. Lavender T, Walkinshaw S, Walton I. A prospective study of women's views of factors contributing to a positive birth experience. *Midwifery* 1999;15(1):40-6.

Professional Resources



New Products - MIDIRS

The NCT is experienced in providing products, information and teaching aids to support healthcare professionals in their work with parents.

The NCT are glad to be able to offer the popular and well-respected **MIDIRS Informed Choice leaflets**. Consisting of 25 leaflets, Informed Choice covers a discrete range of topics and issues surrounding health and well-being preconceptionally, in pregnancy, childbirth, post birth, and beyond. Code 3258 £16.95



MIDIRS Lots to Remember data cards are an essential pocket-sized pack, comprising 26 double-sided durable plastic cards filled with essential easy-to-read information for registered and student midwives. Code 3256 £21.99



NCT Information sheets available in pads of 50 £4.50 each.

What's in a nappy

Code 3213

Bath time tips

Code 1730

Vaginal birth after a caesarean

Code 1703

How can I tell if my baby is thriving?

Code 1718

Straightforward birth

Code 1712

Using water in labour and birth

Code 1711

For more details about NCT Information Sheets, or for a copy of the NCT Professional Resources catalogue - visit:

www.nctresources.co.uk

Or call: 0845 8100 100

