



Cesarean Fact Sheet

By webmaster

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- These facts are presented by the International Cesarean Awareness Network with the hope that parents, childbirth educators, doulas, nurses, midwives and doctors together can effectively reduce the rate of unnecessary cesarean sections and their effects.

- A cesarean (si-'zar-E-an) section is major abdominal surgery used for the delivery of an infant through an incision in the mother's abdomen and uterus. The incision may be made across the bottom of the abdomen above the pubic area (transverse) or in rare instances, in a line from the belly button to the pubic area (vertical). Learn More: [Cesarean section - what happens during delivery.](#)

- When a cesarean is necessary, it can be a lifesaving procedure for both mother and baby.¹ However, psychological outcomes such as negative feelings, fear, guilt, anger and postpartum depression are common consequences of both emergent and elective cesarean sections.^{2,3,4} A cesarean section is only indicated in the following situations:

- Complete placenta previa at term
- Transverse lie at complete dilation
- Prolapsed cord
- Abruited placenta
- Eclampsia or HELLP with failed induction of labor
- Large uterine tumor that blocks the cervix at complete dilation (Most fibroids will move upwards as the cervix opens, moving it out of baby's path.)



- True fetal distress confirmed with a fetal scalp sampling or biophysical profile
 - True absolute cephalopelvic disproportion or CPD (baby too large for pelvis). This is extremely rare and only associated with a pelvic deformity (or an incorrectly healed pelvic break). Fetal positioning during labour and maternal positioning during second stage, most notably when women are in a semi-sitting position, cause most CPD diagnosed in current obstetrics.⁵
 - Initial outbreak of active herpes at the onset of labor
 - Uterine rupture
- Many reasons given for cesarean, especially prior to labour, can and should be questioned. This includes macrosomia (large baby),^{6,7,8} maternal age,⁹ and parity,¹⁰ assisted reproductive technology,¹¹ CPD,¹² dystocia, failure to progress, breech,^{13,14} fetal distress or even prolonged second stage.¹⁵ There are very few true indications for a cesarean section in which the risks of surgery will outweigh the risks of vaginal birth.¹⁶
- The cesarean section rate remains at an alarmingly higher rate in many industrialized countries than the 10-15% average recommended by the World Health Organization, causing unnecessary risk to both mother and baby.¹⁷ Healthy People 2010 recommends a reduction in cesarean births in the US to 15% by 2010.¹⁸
- A cesarean poses documented medical risks to the mother's health. These risks include infection,¹⁹ blood loss and hemorrhage,²⁰ hysterectomy,^{21,22} transfusions,²³ bladder and bowel injury,^{24,25} incisional endometriosis,^{26,27} heart and lung complications,²⁸ blood clots in the legs,²⁹ anesthesia complications,³⁰ and rehospitalization due to surgical complications,³¹ rate of establishment and ongoing breastfeeding is reduced,³² and psychological well-being compromised and increased rate emotional trauma.³³ Potential chronic complications from scar tissue adhesions include pelvic pain, bowel problems, and pain during sexual intercourse.³⁴ Scar tissue makes subsequent cesareans more difficult to perform, increasing the risk of injury to other organs and the risk of chronic problems from adhesions.³⁵ One-half of all women who have undergone a cesarean section suffer complications, and the mortality rate is at least two to four times that of women with vaginal births. Approximately 180 women die annually in the United States from elective repeat cesareans alone.
- Each successive cesarean greatly increases the risk of developing placenta previa, placenta accreta and placental abruption in subsequent pregnancies.^{36,37,38} Both of these complications pose life-threatening risks to mother and baby. Cesareans also increase the odds of secondary



infertility, miscarriage and ectopic pregnancy in subsequent pregnancies.^{39,40}

- A cesarean poses documented medical risks to the baby's health.⁴¹ These risks include respiratory distress syndrome (RDS),^{42,43,44,45} iatrogenic prematurity (when surgery is performed because of an error in determining the due date),^{46,47} persistent pulmonary hypertension (PPH),⁴⁸ and surgery-related fetal injuries such as lacerations.^{49,50} Preliminary studies also have found cesarean delivery significantly alters the capability of cord blood mononuclear cells (CBMC) to produce cytokines.⁵¹ An elective cesarean section significantly increases the risk to the infant of premature birth and respiratory distress syndrome, both of which are associated with multiple complications, intensive care and burdensome financial cost. Even with mature babies, the absence of labor increases the risk of breathing problems and other complications. Far from doing better, even premature and at risk babies born by cesarean fare worse than those born vaginally.

- Cesareans can delay the opportunity for early mother-newborn interaction, breastfeeding, and the establishment of family bonds.^{52,53,54}

- Cesarean rates are influenced by nonmedical factors. These include: individual philosophy and training, convenience of doctor or patient, the patient's socioeconomic status, peer pressure, fear of litigation, and financial gain.^{55,56,57}

- In the United States, obstetricians offer defensive medicine as an excuse for the astronomical and sharply rising U.S. cesarean rate. Deliberately performing unnecessary surgery in the belief it avoids lawsuits is indefensible. That many obstetricians seem oblivious to the profound violation of ethical principles is shocking.^{58,59}

- Vaginal Birth After Cesarean (VBAC) is safer for both mother and infant, in most cases, than is routine elective cesarean, which is major surgery.^{60,61,62,63,64,65,66} Learn More in our [VBAC Section](#).

- The risk to your infant from the very low incidence of uterine rupture (less than 1%) after a prior cesarean is much less than the risk to your infant from respiratory distress as a result of a scheduled cesarean.^{67,68,69,70}

The International Cesarean Awareness Network (ICAN) founded as Cesarean Prevention Movement in 1982, has chapters, individuals, an international newsletter (the Clarion), email line and website ready to give you support and information. For more information, please call 1-800-686-ICAN or visit <http://www.ican-online.org/>.



References:

1. Wagner M. Choosing Cesarean Section. *Lancet* 2000; 356: 1677-80.
2. Ryding, Elsa Lena, Wijma, Klaas & Wijma, Barbro. Experiences of Emergency Cesarean Section: A Phenomenological Study of 53 Women. *Birth* 1998; 25 (4), 246-251.
3. Soet, Johanna E., Brack, Gregory A. & Dilorio, Colleen. Prevalence and Predictors of Women's Experience of Psychological Trauma During Childbirth. *Birth* 2003; 30 (1), 36-46.
4. Koo, Vincent, Lynch, Janine & Cooper, Stephen. Risk of postnatal depression after emergency delivery. *The Journal of Obstetrics and Gynaecology Research* 2003; 29 (4), 246-250.
5. Gupta J, Glanville J, Johnson N, et al. The effect of squatting on pelvic dimensions. *Eur J Obstet Gynecol Reprod Biol* 1991;42: 19-22.
6. Parry S, Severs CP, Sehdev HM, Macones GA, White LM, Morgan MA. Ultrasonographic Prediction of Fetal Macrosomia: Association with Cesarean Delivery. *J Reprod Med* 2000;45:17-22.
7. Haram, Kjell, Pirohonen; Jouko, Bergsjö. Suspected big baby: a difficult clinical problem in obstetrics. *Acta Obstetrica et Gynecologica Scandinavica* 2002; 81 (3), 185-194.
8. Sandmire, Herbert F. & Woolley, Robert J. IN THE LITERATURE Macrosomia: Can We Prevent Big Problems with Big Babies? *Birth* 25 1998; (4), 263-267.
9. Kozinszky, Zoltán, Orvos, Hajnalka, Zoboki, Tünde, Katona, Márta, Wayda, Kornelia, Pál, Attila, Kovács, László. Risk factors for cesarean section of primiparous women aged over 35 years. *Acta Obstetrica et Gynecologica Scandinavica* 2002; 81 (4), 313-316.
10. Qublan, Hussein, Alghoweri, Ahmad, Al-Taani, Mohammad, Abu-Khait, Sami, Abu-Salem, Areej & Merhej, Ahmad. Cesarean section rate: The effect of age and parity. *J Obstet Gynaecol Res* 2002; 28 (1), 22-25.
11. Kozinszky, Zoltán, Zádori, János, Orvos, Hajnalka, Katona, Márta, Pál, Attila & Kovács, László. Obstetric and neonatal risk of pregnancies after assisted reproductive technology: a matched control study. *Acta Obstetrica et Gynecologica Scandinavica* 2003; 82 (9), 850-856.
12. Brabin, Loretta, Verhoeff, Francine, Brabin, Bernard. Maternal height, birthweight and cephalo pelvic disproportion in urban Nigeria and rural Malawi. *Acta Obstetrica et Gynecologica Scandinavica* 2002; 81 (6), 502-507.
13. Usta, Ihab M., Nassar, Anwar H., Khabbaz, Antoun Y. & Abu Musa, Antoine A. Undiagnosed term breech: Impact on mode of delivery and neonatal outcome. *Acta Obstetrica et Gynecologica Scandinavica* 2003; 82 (9), 841-844.
14. Keirse, Marc J.N.C. Evidence-Based Childbirth Only For Breech Babies? *Birth* 2002; 29 (1), 55-59.
15. Janni, Wolfgang, Schiessl, Barbara, Peshcers, Ursula, Huber, Sandra, Strobl, Barbara,



Hantschmann, Peer, Uhlmann, Natalie, Dimpfl, Thomas, Rammel, Gerhard & Kainer, Franz.. The prognostic impact of a prolonged second stage of labor on maternal and fetal outcome. *Acta Obstetrica et Gynecologica Scandinavica* 2002; 81 (3), 214-221.

16. Wagner M. Choosing Cesarean Section. *Lancet* 2000;356: 1677-80.

17. World Health Organization. Appropriate technology for birth. *Lancet* 1985; 2:436-7.

18. U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000. Objective 16-9.

19. Henderson EJ & Love EJ. Incidence of hospital-acquired infections associated with cesarean section. *J Hosp Infect* 1995; 29: 245-255.

20. van Ham MA, van Dongen PW & Mulder J. Maternal consequences of caesarean section. A retrospective study of intra-operative and postoperative maternal complications of caesarean section during a 10-year period. *Eur J Obstet Gynecol Reprod Biol* 1997; 74: 1-6.

21. Engelsen, Ingeborg Bøe, Albrechtsen, Susanne & Iversen, Ole Erik. Peripartum hysterectomy-incidence and maternal morbidity. *Acta Obstetrica et Gynecologica Scandinavica* 2001 80 (5), 409-412.

22. Bergholt, Thomas, Stenderup, Jens Karl, Vedsted-Jakobsen, Agnete, Helm, Peter & Lenstrup, Carsten. Intraoperative surgical complication during cesarean section: an observational study of the incidence and risk factors. *Acta Obstetrica et Gynecologica Scandinavica* 2003; 82 (3), 251-256.

23. Naef RW III, Washburne JF, Martin RW et al. Hemorrhage associated with cesarean delivery: When is transfusion needed? *J Perinatol* 1995; 15: 32-35.

24. Eisenkop SM, Richman R, Platt LD & Paul RH. Urinary tract injury during cesarean section. *Obstet Gynecol* 1982; 60: 591-596.

25. Davis JD. Management of injuries to the urinary and gastrointestinal tract during cesarean section. *Obstet Gynecol Clin North Am* 1999; 26: 469-480.

26. Wolf Y, Haddad R, Werbin N, Skornick Y, Kaplan O. Endometriosis in abdominal scars: A diagnostic pitfall. *Am Surg* 1996; 62(12):1042-4.

27. Wolf GC, Singh KB. Cesarean scar endometriosis: A review. *Obstet Gynecol Surv* 1989; 44(2):89-95.

28. Lydon-Rochelle M, Holt VL, Martin DP, Easterling TR. Association between method of delivery and maternal rehospitalization. *J Amer Med Assoc* 2000; 283(18):2411-2416.

29. Lydon-Rochelle M, Holt VL, Martin DP, Easterling TR. Association between method of delivery and maternal rehospitalization. *J Amer Med Assoc* 2000; 283(18):2411-2416.

30. Kawashima, Y., Takahashi, S., Suzuki, M., Morita, K., Irita, K., Iwao, Y., Seo, N., Tsuzaki, K., Dohi, S., Kobayashi, T., Goto, Y., Suzuki, G., Fujii, A., Suzuki, H., Yokoyama, K. & Kugimiya, T. Anesthesia-related mortality and morbidity over a 5-year period in 2,363,038 patients in Japan. *Acta Anaesthesiologica Scandinavica* 2003; 47 (7), 809-817.

31. Lydon-Rochelle M, Holt VL, Martin DP, Easterling TR. Association between method of delivery and maternal rehospitalization. *J Amer Med Assoc* 2000; 283(18):2411-2416.

32. Lydon-Rochelle MT, Holt VL, Martin DP. Delivery method and self-reported postpartum general health status among primiparous women. *Paediatr Perinat Epidemiol* 2001 Jul;15(3):241-2.

33. Ryding, Elsa Lena, Wijma, Klaas & Wijma, Barbro. Experiences of Emergency Cesarean Section: A Phenomenological Study of 53 Women. *Birth* 1998; 25 (4), 246-251.



34. Hesham Al-Inany. Intrauterine adhesions; An update. *Acta Obstetrica et Gynecologica Scandinavica* 1998; Vol. 80, 11: 986-993.
35. Almeida EC, Nogueira AA, Candido dos Reis FJ, Rosa e Silva JC. Cesarean section as a cause of chronic pelvic pain. *Int J Gynaecol Obstet.* 2002 Nov;79(2):101-4.
36. Zaideh, SM et al. Placenta praevia and accreta: Analysis of a two-year experience. *Gynecol Obstet Invest* 1998; 46(2):96-8.
37. Ananth, CV et al. The association of placenta previa with history of cesarean delivery and abortion: A meta-analysis. *Am J Obstet Gynecol* 1997; 177(5):1071-78.
38. Miller DA, Chollet JA & Goodwin TM. Clinical risk factors for placenta previa-placenta accreta. *Am J Obstet Gynecol* 1997; 177: 210-214.
39. Hemminki, E and Merilainen, J. Long-term effects of cesarean sections: Ectopic pregnancies and placental problems. *Am J Obstet Gynecol* 1996; 174(5):1569-74.
40. Hall MH, Campbell DM, Fraser C & Lemon J. Mode of delivery and future fertility. *Brit J Obstet Gynecol* 1989; 96: 1297-1303.
41. Wagner M. Choosing Cesarean Section. *Lancet* 2000;356: 1677-80.
42. Morrison JJ, Rennie JM, Milton PJ. Neonatal respiratory morbidity and mode of delivery at term: Influence of timing of elective caesarean section. *Br J Obstet Gynaecol* 1995; 102:101-6.
43. Hales KA, Morgan MA, Thurnau GR. Influence of labor and route of delivery on the frequency of respiratory morbidity in term neonates. *Int J Gynaecol Obstet* 1993; 43(1):35-40.
44. Levine EM, Ghai V, Barton JJ, Strom CM. Mode of delivery and risk of respiratory diseases in newborns. *Obstet Gynecol* 2001;97(3):439-42.
45. Parilla BV, Dooley SL, Jansen RD, and Socol ML. Iatrogenic respiratory distress syndrome following elective repeat cesarean delivery. *Obstet Gynecol* 1993; 81(3):392-5.
46. Lydon-Rochelle MT, Holt VL, Martin DP. Delivery method and self-reported postpartum general health status among primiparous women. *Paediatr Perinat Epidemiol.* 2001 Jul;15(3):241-2.
47. Lydon-Rochelle M, Holt VL, Martin DP, Easterling TR. Association between method of delivery and maternal rehospitalization. *J Amer Med Assoc* 2000; 283(18):2411-2416.
48. Levine EM, Ghai V, Barton JJ, Strom CM. Mode of delivery and risk of respiratory diseases in newborns. *Obstet Gynecol* 2001; 97:439-42.
49. Smith J, Hernandez C, Wax J 1997. Fetal laceration injury at cesarean delivery. *Obstet Gynecol* 90:344-6.
50. Fawcett J, Pollio N & Tully A. Women's perceptions of cesarean and vaginal delivery: Another look. *Res Nurs Health* 1992; 15: 439-446
51. Brown, Mark A., Rad, Parmis Y. & Halonen, Marilyn J. (2003) Method of birth alters interferon-gamma and interleukin-12 production by cord blood mononuclear cells. *Pediatric Allergy and Immunology* 14 (2), 106-111.
52. Soet, Johanna E., Brack, Gregory A. & Dilorio, Colle en. Prevalence and Predictors of Women's Experience of Psychological Trauma During Childbirth. *Birth* 2003; 30 (1), 36-46.
53. Dahlberg, Karin, Berg, Marie & Lundgren, Ingela. Commentary: Studying Maternal Experiences of Childbirth. *Birth* 1999; 26 (4), 215-217.
54. Rowe-Murray, Heather J. & Fisher, Jane R.W. Baby Friendly Hospital Practices: Cesarean Section is a Persistent Barrier to Early Initiation of Breastfeeding. *Birth* 2002; 29 (2),



124-131.

55. Sleutel, Martha R. Intrapartum Nursing Care: A Case Study of Supportive Interventions and Ethical Conflicts. *Birth* 2000; 27 (1), 38-45.
56. FIGO Committee for the Ethical Aspects of Human Reproduction and Women's Health. Ethical aspects regarding cesarean delivery for non-medical reasons. *Int J Obs & Gynae*;64:317-322, 1999
57. Beilin, Y., Friedman, F., Andres, L. A., Hossain, S. & Bodian, C. A. The effect of the obstetrician group and epidural analgesia on the risk for cesarean delivery in nulliparous women. *Acta Anaesthesiologica Scandinavica* 2000; 44 (8), 959-964.
58. Greene, M.F. (2001). Vaginal delivery after cesarean section-is the risk acceptable? *N Eng J Med* 345:54-5.
59. Wagner M. Choosing Cesarean Section. *Lancet* 2000;356: 1677-80.
60. Lydon-Rochelle M, Holt VL, Easterling TR, Martin DP. Risk of uterine rupture during labor among women with prior cesarean delivery. *N Engl J Med* 2001;345:3-8.
61. Mozerkewich, EL and Hutton EK. Elective repeat cesarean delivery versus trial of labor: A meta-analysis of the literature from 1989 to 1999. *Am J Obstet Gynecol* 2000 Nov.; Vol. 183, 1187-1197.
62. Gregory KD, Korst, LM, Cane P, Platt, LD, Kahn, K. Vaginal Birth After Cesarean and Uterine Rupture Rates in California. *Obstet Gynecol* 1999 Dec; Vol.94, 985-989.
63. Rageth JC, Juzi C, Grossenbacher, H. Delivery After Previous Cesarean: A Risk Evaluation. *Obstet Gynecol* 1999 Mar; 93: 332-337.
64. American College of Obstetricians and Gynecologists (1999). Vaginal birth after previous cesarean delivery. *ACOG Practice Bulletin*, No. 5. Washington, DC: American College of Obstetricians and Gynecologists.
65. Society of Obstetricians and Gynaecologists of Canada. Vaginal Birth after Previous Caesarean Birth. *SOGC Clinical Practice Guidelines Policy Statement No. 68*. *J SOGC* 1997;19:1425-28.
66. Mozerkewich. VBAC Safer than You Think. *ObG Management* 2002; 14:56.
67. Morrison JJ, Rennie JM, Milton PJ. Neonatal respiratory morbidity and mode of delivery at term: Influence of timing of elective caesarean section. *Br J Obstet Gynaecol* 1995; 102:101-6.
68. Hales KA, Morgan MA, Thurnau GR. Influence of labor and route of delivery on the frequency of respiratory morbidity in term neonates. *Int J Gynaecol Obstet* 1993; 43(1):35-40.
69. Levine EM, Ghai V, Barton JJ, Strom CM. Mode of delivery and risk of respiratory diseases in newborns. *Obstet Gynecol* 2001;97(3):439-42.
70. Parilla BV, Dooley SL, Jansen RD, and Socol ML. Iatrogenic respiratory distress syndrome following elective repeat cesarean delivery. *Obstet Gynecol* 1993; 81(3):392-5.

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