

The American College of Obstetricians and Gynecologists WOMEN'S HEALTH CARE PHYSICIANS

# **COMMITTEE OPINION**

Number 697 • April 2017

(Replaces Committee Opinion Number 669, August 2016)

# **Committee on Obstetric Practice**

This Committee Opinion was developed by the American College of Obstetricians and Gynecologists' Committee on Obstetric Practice in collaboration with committee members Joseph R. Wax, MD, and William H. Barth Jr, MD.

This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

INTERIM UPDATE: This Committee Opinion is updated as highlighted to reflect a limited, focused change in the presentation of data regarding perinatal mortality in planned home births.

# **Planned Home Birth**

**ABSTRACT:** In the United States, approximately 35,000 births (0.9%) per year occur in the home. Approximately one fourth of these births are unplanned or unattended. Although the American College of Obstetricians and Gynecologists believes that hospitals and accredited birth centers are the safest settings for birth, each woman has the right to make a medically informed decision about delivery. Importantly, women should be informed that several factors are critical to reducing perinatal mortality rates and achieving favorable home birth outcomes. These factors include the appropriate selection of candidates for home birth; the availability of a certified nurse–midwife, certified midwife or midwife whose education and licensure meet International Confederation of Midwives' Global Standards for Midwifery Education, or physician practicing obstetrics within an integrated and regulated health system; ready access to consultation; and access to safe and timely transport to nearby hospitals. The Committee on Obstetric Practice considers fetal malpresentation, multiple gestation, or prior cesarean delivery to be an absolute contraindication to planned home birth.

# **Recommendations**

- Women inquiring about planned home birth should be informed of its risks and benefits based on recent evidence. Specifically, they should be informed that although planned home birth is associated with fewer maternal interventions than planned hospital birth, it also is associated with a more than twofold increased risk of perinatal death (1-2 in 1,000) and a threefold increased risk of neonatal seizures or serious neurologic dysfunction (0.4-0.6 in 1,000). These observations may reflect fewer obstetric risk factors among women planning home birth compared with those planning hospital birth. Although the American College of Obstetricians and Gynecologists (the College) believes that hospitals and accredited birth centers are the safest settings for birth, each woman has the right to make a medically informed decision about delivery.
- Women should be informed that several factors are critical to reducing perinatal mortality rates and achieving favorable home birth outcomes. These factors include the appropriate selection of candidates for home birth; the availability of a certified

nurse-midwife, certified midwife or midwife whose education and licensure meet International Confederation of Midwives' Global Standards for Midwifery Education, or physician practicing obstetrics within an integrated and regulated health system; ready access to consultation; and access to safe and timely transport to nearby hospitals.

• The Committee on Obstetric Practice considers fetal malpresentation, multiple gestation, or prior cesarean delivery to be an absolute contraindication to planned home birth.

In the United States, approximately 35,000 births (0.9%) per year occur in the home (1). Approximately one fourth of these births are unplanned or unattended (2). Among women who originally intend to give birth in a hospital or those who make no provisions for professional care during childbirth, home births are associated with high rates of perinatal and neonatal mortality (3). The relative risk versus benefit of a planned home birth, however, remains the subject of debate.

High-quality evidence that can inform this debate is limited. To date, there have been no adequate randomized clinical trials of planned home birth (4). In developed

VOL. 129, NO. 4, APRIL 2017

## OBSTETRICS & GYNECOLOGY e117



countries where home birth is more common than in the United States, attempts to conduct such studies have been unsuccessful, largely because pregnant women have been reluctant to participate in clinical trials that involve randomization to home or hospital birth (5, 6). Consequently, most information on planned home births comes from observational studies. Observational studies of planned home birth often are limited by methodological problems, including small sample sizes (7-10); lack of an appropriate control group (11–15); reliance on birth certificate data with inherent ascertainment problems (2, 16-18); reliance on voluntary submission of data or self-reporting (7, 12, 14, 15, 19); limited ability to distinguish accurately between planned and unplanned home births (16, 20); variation in the skill, training, and certification of the birth attendant (14-16, 21); and an inability to account for and accurately attribute adverse outcomes associated with antepartum or intrapartum transfers (8, 16, 22). Some recent observational studies overcome many of these limitations, describing planned home births within tightly regulated and integrated health care systems, attended by highly trained licensed midwives with ready access to consultation and safe, timely transport to nearby hospitals (7, 8, 10, 11, 16, 19, 23–28). However, these data may not be generalizable to many birth settings in the United States where such integrated services are lacking. For the same reasons, clinical guidelines for the intrapartum care of women in the United States that are based on these results and are supportive of planned home birth for low-risk term pregnancies also may not currently be generalizable (29). Furthermore, no studies are of sufficient size to compare maternal mortality between planned home and hospital birth and few, when considered alone, are large enough to compare perinatal and neonatal mortality rates. Despite these limitations, when viewed collectively, recent reports clarify a number of important issues regarding the maternal and newborn outcomes of planned home birth when compared with planned hospital births.

Women planning a home birth may do so for a number of reasons, often out of a desire to avoid medical

interventions and the hospital atmosphere (30). Recent studies have found that when compared with planned hospital births, planned home births are associated with fewer maternal interventions, including labor induction or augmentation, regional analgesia, electronic fetal heart rate monitoring, episiotomy, operative vaginal delivery, and cesarean delivery (Table 1). Planned home births also are associated with fewer vaginal, perineal, and thirddegree or fourth-degree lacerations and less maternal infectious morbidity (18, 27, 31, 32). These observations may reflect fewer obstetric risk factors among women planning home births compared with those planning hospital births. Parous women comprise a larger proportion of those planning out-of-hospital births (27, 32). Compared with nulliparous women, parous women collectively experience significantly lower rates of obstetric intervention, maternal morbidity, and neonatal morbidity and mortality, regardless of birth location. Those planning home births also are more likely to deliver in that setting than nulliparous women (15, 27, 33). For these reasons, recommendations regarding the intrapartum care of healthy nulliparous and parous women may differ outside of the United States (29). Also, proportionately more home births are attended by midwives than planned hospital births, and randomized trials show that midwife-led care is associated with fewer intrapartum interventions (34).

Strict criteria are necessary to guide selection of appropriate candidates for planned home birth. In the United States, for example, where selection criteria may not be applied broadly, intrapartum (1.3 in 1,000) and neonatal (0.76 in 1,000) deaths among low-risk women planning home birth are more common than expected when compared with rates for low-risk women planning hospital delivery (0.4 in 1,000 and 0.17 in 1,000, respectively), consistent with the findings of an earlier meta-analysis (15, 31, 33). Additional evidence from the United States shows that planned home birth of a breechpresenting fetus is associated with an intrapartum mortality rate of 13.5 in 1,000 and neonatal mortality rate of 9.2 in 1,000 (15). United States data limited to

Event	Planned Out-of- Hospital Birth (Events per 1,000 births)	Planned Hospital Birth (Events per 1,000 births)	Adjusted Odds Ratio	95% CI
Labor induction	48	304	0.11	0.09-0.12
Labor augmentation	75	263	0.21	0.19-0.24
Operative vaginal delivery	10	35	0.24	0.17-0.34
Cesarean delivery	53	247	0.18	0.16-0.22
Blood transfusion/hemorrhage	6	4	1.91	1.25-2.93
Severe perineal lacerations	9	13	0.69	0.49-0.98

Table 1. Maternal Events Associated With U.S. Planned Out-of-Hospital Births Versus Hospital Births 🗢

Abbreviation: CI, confidence interval.

Data from Snowden JM, Tilden EL, Snyder J, Quigley B, Caughey AB, Cheng YW. Planned out-of-hospital birth and birth outcomes. N Engl J Med 2015;373:2642–53.

#### e118 Committee Opinion Planned Home Birth

#### **OBSTETRICS & GYNECOLOGY**



singleton-term pregnancies demonstrate a higher risk of 5-minute Apgar scores less than 7, less than 4, and 0; perinatal death; and neonatal seizures with planned home birth, although the absolute risks remain low (Table 2) (17, 18, 32).

Although patients with one prior cesarean delivery were considered candidates for home birth in two Canadian studies, details of the outcomes specific to patients attempting home vaginal birth after cesarean delivery were not provided (24, 25). In England, women planning a home trial of labor after cesarean delivery (TOLAC) exhibited fewer obstetric risk factors, were more likely to deliver vaginally, and experienced similar maternal and perinatal outcomes compared with those planning an in-hospital TOLAC (35). In contrast, a recent U.S. study showed that planned home TOLAC was associated with an intrapartum fetal death rate of 2.9 in 1,000, which is higher than the reported rate of 0.13 in 1,000 for planned hospital TOLAC (36, 37). This observation is of particular concern in light of the increasing number of home vaginal births after cesarean delivery (38). Because of the risks associated with TOLAC, and specifically considering that uterine rupture and other complications may be unpredictable, the College recommends that TOLAC be undertaken in facilities with trained staff and the ability to begin an emergency cesarean delivery within a time interval that best incorporates maternal and fetal risks and benefits with the provision of emergency care.

The decision to offer and pursue TOLAC in a setting in which the option of immediate cesarean delivery is more limited should be considered carefully by patients and their health care providers. In such situations, the best alternative may be to refer patients to facilities with available resources. Health care providers and insurers should do all they can to facilitate transfer of care or comanagement in support of a desired TOLAC, and such plans should be initiated early in the course of antenatal care (39).

Recent cohort studies reporting comparable perinatal mortality rates among planned home and hospital births describe the use of strict selection criteria for appropriate candidates (23-25). These criteria include the absence of any preexisting maternal disease, the absence of significant disease arising during the pregnancy, a singleton fetus, a cephalic presentation, gestational age greater than 36-37 completed weeks and less than 41-42 completed weeks of pregnancy, labor that is spontaneous or induced as an outpatient, and that the patient has not been transferred from another referring hospital. In the absence of such criteria, planned home birth is clearly associated with a higher risk of perinatal death (15, 26, 40). The Committee on Obstetric Practice considers fetal malpresentation, multiple gestation, or prior cesarean delivery to be an absolute contraindication to planned home birth.

Another factor influencing the safety of planned home birth is the availability of safe and timely intrapartum transfer of the laboring patient. The reported risk of needing an intrapartum transport to a hospital is 23-37% for nulliparous women and 4-9% for multiparous women. Most of these intrapartum transports are

Event	Planned Home Birth (Events per 1,000 Births)	Hospital Birth (Events per 1,000 Births)	Odds Ratio	95% CI
5-minute Apgar score				
<7	24.2*	11.7*	2.42*	2.13-2.74*
	23 <sup>† §</sup>	$18^{\dagger}$	1.31 <sup>†</sup>	1.04–1.66 <sup>†</sup>
<4	3.7*	2.43*	1.87*	1.36-2.58*
	6 <sup>† §</sup>	$4^{\dagger}$	1.56 <sup>†</sup>	0.98-2.47*
0	1.63 <sup>‡</sup>	0.16 <sup>‡</sup>	10.55 <sup>‡</sup>	8.62-12.93 <sup>‡</sup>
Neonatal seizures (or serious neurologic dysfunction <sup>‡</sup> )	0.58*	0.22*	3.08*	1.44-6.58*
	0.86 <sup>‡</sup>	0.22 <sup>‡</sup>	3.80 <sup>‡</sup>	2.80-5.16 <sup>‡</sup>
	1.3 <sup>†§</sup>	$0.4^{\dagger}$	3.60 <sup>†</sup>	1.36-9.50 <sup>†</sup>
Perinatal mortality (fetal death and neonatal mortality)	3.9† <mark>§</mark>	1.8 <sup>†</sup>	2.43 <sup>†</sup>	1.37-4.30 <sup>†</sup>

Table 2. Adverse Perinatal Events Associated With U.S. Planned Home Births Versus Hospital Births 🗢

Abbreviation: CI, confidence interval.

\*Cheng YW, Snowden JM, King TL, Caughey AB. Selected perinatal outcomes associated with planned home births in the United States. Am J Obstet Gynecol 2013;209: 325.e1–8.

<sup>1</sup>Snowden JM, Tilden EL, Snyder J, Quigley B, Caughey AB, Cheng YW. Planned out-of-hospital birth and birth outcomes. N Engl J Med 2015;373:2642–53. <sup>1</sup>Grunebaum A, McCullough LB, Sapra KJ, Brent RL, Levene MI, Arabin B, et al. Apgar score of 0 at 5 minutes and neonatal seizures or serious neurologic dysfunction in relation to birth setting. Am J Obstet Gynecol 2013;209:323.e1–6.

<sup>§</sup>Includes planned birth center and home births.

#### VOL. 129, NO. 4, APRIL 2017

#### Committee Opinion Planned Home Birth e119



for lack of progress in labor, nonreassuring fetal status, need for pain relief, hypertension, bleeding, and fetal malposition (27, 41, 42). The relatively low perinatal and newborn mortality rates reported for planned home births from Ontario, British Columbia, and the Netherlands were from highly integrated health care systems with established criteria and provisions for emergency intrapartum transport (23–25). Cohort studies conducted in areas without such integrated systems and those where the receiving hospital may be remote, with the potential for delayed or prolonged intrapartum transport, generally report higher rates of intrapartum and neonatal death (6, 9, 11, 15, 22). Even in regions with integrated care systems, increasing distance from the hospital is associated with longer transfer times and the potential for increased adverse outcomes. However, no specific thresholds for time or distance have been identified (43, 44). The College believes that the availability of timely transfer and an existing arrangement with a hospital for such transfers is a requirement for consideration of a home birth. When antepartum, intrapartum, or postpartum transfer of a woman from home to a hospital occurs, the receiving health care provider should maintain a nonjudgmental demeanor with regard to the woman and those individuals accompanying her to the hospital.

A characteristic common to those cohort studies reporting comparable rates of perinatal mortality is the provision of care by uniformly highly educated and trained certified midwives who are well integrated into the health care system (23–25, 27). In the United States, certified nurse-midwives and certified midwives are certified by the American Midwifery Certification Board. This certification depends on the completion of an accredited educational program and meeting standards set by the American Midwifery Certification Board. In comparison with planned out-of-hospital births attended by American Midwifery Certification Board-certified midwives, planned out-of-hospital births by midwives who do not hold this certification have higher perinatal morbidity and mortality rates (18). At this time, for quality and safety reasons, the College specifically supports the provision of care by midwives who are certified by the American Midwifery Certification Board (or its predecessor organizations) or whose education and licensure meet the International Confederation of Midwives Global Standards for Midwifery Education. The College does not support provision of care by midwives who do not meet these standards.

Although the College believes that hospitals and accredited birth centers are the safest settings for birth, each woman has the right to make a medically informed decision about delivery (45). Importantly, women should be informed that several factors are critical to reducing perinatal mortality rates and achieving favorable home birth outcomes. These factors include the appropriate selection of candidates for home birth; the availability

of a certified nurse-midwife, certified midwife or midwife whose education and licensure meet International Confederation of Midwives' Global Standards for Midwifery Education, or physician practicing obstetrics within an integrated and regulated health system; ready access to consultation; and access to safe and timely transport to nearby hospitals.

# **For More Information**

The American College of Obstetricians and Gynecologists has identified additional resources on topics related to this document that may be helpful for ob-gyns, other health care providers, and patients. You may view these resources at www.acog.org/More-Info/PlannedHomeBirth.

These resources are for information only and are not meant to be comprehensive. Referral to these resources does not imply the American College of Obstetricians and Gynecologists' endorsement of the organization, the organization's website, or the content of the resource. The resources may change without notice.

# References

- 1. MacDorman MF, Matthews TJ, Declercq E. Trends in outof-hospital births in the United States, 1990-2012. NCHS Data Brief 2014;144:1–8. [PubMed] [Full Text] ⇐
- 2. Wax JR, Pinette MG, Cartin A, Blackstone J. Maternal and newborn morbidity by birth facility among selected United States 2006 low-risk births. Am J Obstet Gynecol 2010;202:152.e1–5. [PubMed] [Full Text] ←
- 3. Collaborative survey of perinatal loss in planned and unplanned home births. Northern Region Perinatal Mortality Survey Coordinating Group. BMJ 1996;313: 1306–9. [PubMed] [Full Text] ←
- Olsen O, Clausen JA. Planned hospital birth versus planned home birth. Cochrane Database of Systematic Reviews 2012, Issue 9. Art. No.: CD000352. DOI: 10.1002/14651858. CD000352.pub2. [PubMed] [Full Text] ⇐
- Dowswell T, Thornton JG, Hewison J, Lilford RJ, Raisler J, Macfarlane A, et al. Should there be a trial of home versus hospital delivery in the United Kingdom? BMJ 1996; 312:753-7. [PubMed] [Full Text]
- 6. Hendrix M, Van Horck M, Moreta D, Nieman F, Nieuwenhuijze M, Severens J, et al. Why women do not accept randomisation for place of birth: feasibility of a RCT in The Netherlands. BJOG 2009;116:537–42; discussion 542–4. [PubMed] [Full Text] ←
- 7. Wiegers TA, Keirse MJ, van der Zee J, Berghs GA. Outcome of planned home and planned hospital births in low risk pregnancies: prospective study in midwifery practices in The Netherlands. BMJ 1996;313:1309–13. [PubMed] [Full Text] ⇐
- Ackermann-Liebrich U, Voegeli T, Gunter-Witt K, Kunz I, Zullig M, Schindler C, et al. Home versus hospital deliveries: follow up study of matched pairs for procedures and outcome. Zurich Study Team. BMJ 1996;313:1313–8. [PubMed] [Full Text] ⇐

#### e120 Committee Opinion Planned Home Birth

Copyright © by The American College of Obstetricians and Gynecologists. Published by Wolters Kluwer Health, Inc. Unauthorized reproduction of this article is prohibited.

## **OBSTETRICS & GYNECOLOGY**



- 9. Davies J, Hey E, Reid W, Young G. Prospective regional study of planned home births. Home Birth Study Steering Group. BMJ 1996;313:1302–6. [PubMed] [Full Text] (=
- Janssen PA, Lee SK, Ryan EM, Etches DJ, Farquharson DF, Peacock D, et al. Outcomes of planned home births versus planned hospital births after regulation of midwifery in British Columbia. CMAJ 2002;166:315–23. [PubMed] [Full Text] ⇐
- Woodcock HC, Read AW, Bower C, Stanley FJ, Moore DJ. A matched cohort study of planned home and hospital births in Western Australia 1981-1987 [published erratum appears in Midwifery 1995;11:99]. Midwifery 1994;10: 125–35. [PubMed] [Full Text] ←
- Anderson RE, Murphy PA. Outcomes of 11,788 planned home births attended by certified nurse-midwives. A retrospective descriptive study. J Nurse Midwifery 1995;40: 483–92. [PubMed] ⇐
- Murphy PA, Fullerton J. Outcomes of intended home births in nurse-midwifery practice: a prospective descriptive study. Obstet Gynecol 1998;92:461–70. [PubMed] ⇐
- 14. Johnson KC, Daviss BA. Outcomes of planned home births with certified professional midwives: large prospective study in North America. BMJ 2005;330:1416. [PubMed] [Full Text] ⇐
- 15. Cheyney M, Bovbjerg M, Everson C, Gordon W, Hannibal D, Vedam S. Outcomes of care for 16,924 planned home births in the United States: the Midwives Alliance of North America Statistics Project, 2004 to 2009. J Midwifery Womens Health 2014;59:17–27. [PubMed] [Full Text] ⇐
- Pang JW, Heffelfinger JD, Huang GJ, Benedetti TJ, Weiss NS. Outcomes of planned home births in Washington State: 1989-1996. Obstet Gynecol 2002;100:253–9. [PubMed] [Obstetrics & Gynecology]
- 17. Grunebaum A, McCullough LB, Sapra KJ, Brent RL, Levene MI, Arabin B, et al. Apgar score of 0 at 5 minutes and neonatal seizures or serious neurologic dysfunction in relation to birth setting. Am J Obstet Gynecol 2013;209: 323.e1-6. [PubMed] [Full Text] ←
- Cheng YW, Snowden JM, King TL, Caughey AB. Selected perinatal outcomes associated with planned home births in the United States. Am J Obstet Gynecol 2013;209:325.e1–8. [PubMed] [Full Text] ⇐
- Lindgren HE, Radestad IJ, Christensson K, Hildingsson IM. Outcome of planned home births compared to hospital births in Sweden between 1992 and 2004. A population-based register study. Acta Obstet Gynecol Scand 2008;87:751–9. [PubMed] [Full Text] ⇐
- Mori R, Dougherty M, Whittle M. An estimation of intrapartum-related perinatal mortality rates for booked home births in England and Wales between 1994 and 2003 [published erratum appears in BJOG 2008;115:1590]. BJOG 2008;115:554–9. [PubMed] [Full Text] ⇐
- Schramm WF, Barnes DE, Bakewell JM. Neonatal mortality in Missouri home births, 1978-84. Am J Public Health 1987;77:930–5. [PubMed] [Full Text] ⇐
- 22. Parratt J, Johnston J. Planned homebirths in Victoria, 1995-1998. Aust J Midwifery 2002;15:16–25. [PubMed] ⇐
- 23. de Jonge A, Geerts CC, van der Goes BY, Mol BW, Buitendijk SE, Nijhuis JG. Perinatal mortality and mor-

bidity up to 28 days after birth among 743 070 lowrisk planned home and hospital births: a cohort study based on three merged national perinatal databases. BJOG 2015;122:720-8. [PubMed] [Full Text] ←

- 24. Janssen PA, Saxell L, Page LA, Klein MC, Liston RM, Lee SK. Outcomes of planned home birth with registered mid-wife versus planned hospital birth with midwife or physician [published erratum appears in CMAJ 2009;181:617]. CMAJ 2009;181:377–83. [PubMed] [Full Text] ⇔
- 25. Hutton EK, Reitsma AH, Kaufman K. Outcomes associated with planned home and planned hospital births in low-risk women attended by midwives in Ontario, Canada, 2003-2006: a retrospective cohort study. Birth 2009;36:180–9. [PubMed] ⇔
- 26. Kennare RM, Keirse MJ, Tucker GR, Chan AC. Planned home and hospital births in South Australia, 1991-2006: differences in outcomes. Med J Aust 2010;192:76-80. [PubMed] [Full Text] ⇔
- 27. Brocklehurst P, Hardy P, Hollowell J, Linsell L, Macfarlane A, McCourt C, et al. Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: the Birthplace in England national prospective cohort study. Birthplace in England Collaborative Group. BMJ 2011;343:d7400. [PubMed] [Full Text] ⇔
- Hutton EK, Cappelletti A, Reitsma AH, Simioni J, Horne J, McGregor C, et al. Outcomes associated with planned place of birth among women with low-risk pregnancies. CMAJ 2016;188:E80–90. [PubMed] [Full Text] ⇐
- 29. National Institute for Health and Care Excellence. Intrapartum care for healthy women and babies. Clinical Guideline 190. London: NICE; 2014. Available at: https:// www.nice.org.uk/guidance/cg190. Retrieved April 20, 2016. ⇐
- Neuhaus W, Piroth C, Kiencke P, Gohring UJ, Mallman P. A psychosocial analysis of women planning birth outside hospital. J Obstet Gynaecol 2002;22:143–9. [PubMed] ⇐
- Wax JR, Lucas FL, Lamont M, Pinette MG, Cartin A, Blackstone J. Maternal and newborn outcomes in planned home birth vs planned hospital births: a metaanalysis. Am J Obstet Gynecol 2010;203:243.e1–8. [PubMed] [Full Text]
- 32. Snowden JM, Tilden EL, Snyder J, Quigley B, Caughey AB, Cheng YW. Planned out-of-hospital birth and birth outcomes. N Engl J Med 2015;373:2642–53. [PubMed] [Full Text] ⇐
- Worley KC, McIntire DD, Leveno KJ. The prognosis for spontaneous labor in women with uncomplicated term pregnancies: implications for cesarean delivery on maternal request. Obstet Gynecol 2009;113:812-6. [PubMed] [Obstetrics & Gynecology] ⇐
- 34. Sandall J, Soltani H, Gates S, Shennan A, Devane D. Midwife-led continuity models versus other models of care for childbearing women. Cochrane Database of Systematic Reviews 2015, Issue 9. Art. No.: CD004667. DOI: 10.1002/14651858.CD004667.pub4. [PubMed] [Full Text] ⇐
- 35. Rowe R, Li Y, Knight M, Brocklehurst P, Hollowell J. Maternal and perinatal outcomes in women planning vaginal birth after caesarean (VBAC) at home in England:

VOL. 129, NO. 4, APRIL 2017

#### Committee Opinion Planned Home Birth e121



secondary analysis of the Birthplace national prospective cohort study. BJOG 2015; DOI: 10.1111/1471-0528.13546. [PubMed] [Full Text] ⇐

- 36. Cox KJ, Bovbjerg ML, Cheyney M, Leeman LM. Planned home VBAC in the United States, 2004-2009: outcomes, maternity care practices, and implications for shared decision making. Birth 2015;42:299–308. [PubMed] [Full Text]
- 37. Landon MB, Hauth JC, Leveno KJ, Spong CY, Leindecker S, Varner MW, et al. Maternal and perinatal outcomes associated with a trial of labor after prior cesarean delivery. National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. N Engl J Med 2004;351:2581–9. [PubMed] [Full Text] ⇐
- 38. MacDorman MF, Declercq E, Mathews TJ, Stotland N. Trends and characteristics of home vaginal birth after cesarean delivery in the United States and selected States. Obstet Gynecol 2012;119:737–44. [PubMed] [Obstetrics & Gynecology] ⇐
- 39. Vaginal birth after previous cesarean delivery. ACOG Practice Bulletin No. 115. American College of Obstetricians and Gynecologists. Obstet Gynecol 2010;116:450–63. [PubMed] ⇐
- 40. Bastian H, Keirse MJ, Lancaster PA. Perinatal death associated with planned home birth in Australia: population based study. BMJ 1998;317:384-8. [PubMed] [Full Text] ⇔
- Wax JR, Pinette MG, Cartin A. Home versus hospital birth—process and outcome. Obstet Gynecol Surv 2010; 65:132-40. [PubMed] ⇐
- 42. Blix E, Kumle M, Kjaergaard H, Oian P, Lindgren HE. Transfer to hospital in planned home births: a systematic review. BMC Pregnancy Childbirth 2014;14:179. [PubMed] [Full Text] ⇐

- 43. Paranjothy S, Watkins WJ, Rolfe K, Adappa R, Gong Y, Dunstan F, et al. Perinatal outcomes and travel time from home to hospital: Welsh data from 1995 to 2009. Acta Paediatr 2014;103:e522-7. [PubMed] ⇐
- 44. Rowe RE, Townend J, Brocklehurst P, Knight M, Macfarlane A, McCourt C, et al. Duration and urgency of transfer in births planned at home and in freestanding midwifery units in England: secondary analysis of the birthplace national prospective cohort study. BMC Pregnancy Childbirth 2013;13:224. [PubMed] [Full Text] ⇐
- 45. Informed consent. ACOG Committee Opinion No. 439. American College of Obstetricians and Gynecologists. Obstet Gynecol 2009; 114:401–8. [PubMed] ⇐

Requests for authorization to make photocopies should be directed to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400.

#### The American College of Obstetricians and Gynecologists 409 12th Street, SW, PO Box 96920, Washington, DC 20090-6920

Planned home birth. Committee Opinion No. 697. American College of Obstetricians and Gynecologists. Obstet Gynecol 2017;129:e117–22.

#### **OBSTETRICS & GYNECOLOGY**



Copyright April 2017 by the American College of Obstetricians and Gynecologists. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, posted on the Internet, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher.