

# Trial of Labor After Cesarean Section 16th Edition(pub Sep-6-2017)

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## Objectives

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**At the completion of this section, participants will be able to:**

- Identify the risks and benefits of labor after Cesarean section
- Discuss the maternal morbidity and mortality associated with TOLAC
- Discuss the neonatal morbidity and mortality associated with TOLAC
- Describe the potential success rates for TOLAC
- Identify factors that may increase or decrease the likelihood of successful TOLAC
- Select appropriate candidates for TOLAC
- Identify the contraindications to TOLAC
- Define appropriate intrapartum care for women with planned TOLAC
- Describe the risks, complications and process of labor induction and augmentation after a previous Cesarean section
- Identify signs and symptoms associated with uterine rupture and outline a plan of management

## Introduction

The primary indication for Cesarean section (C/S) in Canada is a previous C/S, accounting for over 30% of the total. Every year, over 30,000 women in Canada are faced with a choice of trial of labor or repeat C/S. Professional associations, including the Society of Obstetricians and Gynaecologists of Canada, the Royal College of Obstetricians and Gynaecologists, and the American Congress of Obstetricians and Gynecologists, all recommend that a trial of labor after Cesarean (TOLAC) be offered to eligible women.<sup>1</sup>

Candidates for planned TOLAC are those women in whom the balance of risks and chances of success are acceptable to the woman and the healthcare provider. The balance of risks and benefits appropriate for one woman may seem unacceptable for another.<sup>2</sup> Delivery discussions and decisions for future pregnancies following Cesarean section (C/S) should be considered on an individual basis as early as the postpartum period.

## Definitions

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**Vaginal birth after Cesarean (VBAC):** Vaginal delivery after having a previous Cesarean birth.<sup>1</sup>

**Trial of labor after cesarean (TOLAC):** The plan to attempt labor when a woman has had a previous Cesarean birth, with the goal of achieving a successful vaginal birth.

**Elective repeat Cesarean section (ERCS):** a Cesarean delivery performed before the onset of labor.

**Uterine scar rupture:** The “complete separation of the Myometrium with or without extrusion of the fetal parts into the maternal peritoneal cavity”.<sup>3</sup>

**Uterine scar dehiscence:** The fetal membranes are not ruptured and the fetus is not outside of the uterus. Usually the peritoneum over the defect is intact. Morbidity and mortality are NOT increased as they are with uterine rupture.<sup>4</sup>

## Incidence

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The proportion of babies delivered by Cesarean continues to increase in Canada. In 2011–2012, 27.2% of hospital deliveries were Cesarean deliveries compared to 17.6% in 1995–1996.<sup>5</sup> In 2012 in the U.S. the percentage of all deliveries by C/S was 32.8%.<sup>6</sup>

- In 2011–2012, the Canadian **primary** C/S rate remained stable at 17.9%. Canadian women age 35 and older continued to have significantly higher primary C/S rates than their younger counterparts (22.3% versus 17.0%).<sup>7</sup>
- The Canadian **repeat** C/S rate—the proportion of women with previous C/S who underwent a repeat C/S—was 82.5% in 2011–2012.

In British Columbia for 2012–2013, 82.4% of women with previous C/S were considered eligible for a TOLAC. Of this eligible group, 32.6% attempted a TOLAC and 71.3% were successful.<sup>8</sup>

In 2006 the TOLAC rate in the US was 8.6%. It is estimated that 60% to 80% of appropriate candidates who attempt TOLAC will be successful.<sup>2</sup>

# Success

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In a 2008 Canadian study including 3493 women, the TOLAC attempt rate ranged from 50.6% to 81.1%. For women having TOLAC, the VBAC success rate was between 64.3% and 76.1%.<sup>9</sup>

*The overall TOLAC among American studies was 58%, with a range of 28% to 70%. For studies initiated after 1996, less than half of women (44%) had a TOLAC, compared with 62% of women in studies initiated before 1996.<sup>10</sup> The incidence of VBAC among women who had a TOLAC is approximately 74% in the United States.<sup>11,12</sup>*

A study conducted by Landon et al identified factors predictive of TOLAC success. This prospective study examined 14,529 women undergoing a TOLAC from 1999 to 2002. The factors listed below were identified as predictive of outcome and are useful to consider when discussing the choice of a TOLAC versus repeat C section.<sup>13,14</sup>

Adolescents are more likely to attempt TOLAC and are likely to be as successful as their adult counterparts. Adolescents should be encouraged to attempt a trial of labor after prior Cesarean section when appropriate to lower the risks of lifelong maternal morbidity from numerous repeat Cesarean sections.<sup>15</sup>

## 1. Factors that increase the likelihood of successful TOLAC include:

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- Previous successful VBAC
- Previous vaginal birth
- Favorable cervix
- Spontaneous labor
- Non-recurrent indication for previous Cesarean section (e.g., breech Presentation )
- Maternal age less than 40 years

## 2. Factors that decrease the likelihood of successful TOLAC include:

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- Previous Cesarean section performed for **Dystocia**
- Need for induction of labor that requires cervical ripening
- Need for augmentation of labor
- Gestational age > 40 weeks
- Birth weight > 4000 grams
- Maternal **Body Mass Index (BMI)** > 30 kg/m<sup>2</sup>.
- Hypertension<sup>16</sup>

### Key Points

A prediction model for TOLAC success developed in the United States has been shown to be valid in a Canadian population. This model allows an accurate estimation of the probability of TOLAC success and may be used in practice, without regard to ethnicity, as a primary method to refine counseling during antepartum visits for women with a prior Cesarean section.<sup>1</sup>

- Calculation tool: <https://mfmu.bsc.gwu.edu/PublicBSC/MFMU/VGBirthCalc/vagbirth.html>

# Maternal Morbidity and Mortality

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Major maternal morbidity and mortality result from uterine rupture, hemorrhage, thromboembolism and infection. Studies demonstrate that uterine rupture can occur in women before, during or even after labor.

## Maternal Mortality by Mode of Delivery

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Wen et al retrospectively analyzed 352,215 births between 1998 and 2000 in Canadian women who had a previous Cesarean delivery (total deliveries during the period were 3,576,980).<sup>17</sup> This study examined rates of uterine rupture and maternal death. The authors concluded that while the rates of uterine rupture, blood transfusion, and hysterectomy were higher in women who underwent a TOLAC, the rate of maternal death was higher in women who had an elective Cesarean delivery. These findings have been corroborated in other countries.<sup>18,19</sup>

### In-hospital maternal death rates (95% CI) in Canada, 1988 to 2000

Subgroup	# deliveries	# deaths	Death rate/100,000	Risk ratio (95% CI)
<b>All deliveries (n=3,576,980)</b>				
Women with a C/S	685,856	119	17.3	9.11 (6.62-12.53)
Vaginal delivery	2,891,124	55	1.9	1.0 (Reference)
<b>Previous C/S (n=352,215)</b>				
Elective repeat C/S	209,007	23	11.0	5.25 (1.58-17.49)
Trial of labor (TOLAC)	143,208	3	2.1	1.0 (Reference)
<b>Eligible*previous c/s (n=308,755)</b>				
Eligible* elective repeat C/S	179,795	10	5.6	3.59 (0.79-16.37)
Eligible* with TOLAC	128,960	2	1.6	1.0 (Reference)

\*Excluding: multifetal pregnancy, [Pre-eclampsia](#) /eclampsia, breech/transverse/oblique [Presentation](#), preterm labor, [Placenta previa](#), [Placental abruption](#), herpes simplex, age younger than 14 years.

Adapted from Wen et al.<sup>17</sup> Copyright 2004, with permission from Elsevier.

## Maternal Outcomes associated with TOLAC vs ERCS

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There are currently no randomized controlled trials determining maternal or neonatal outcomes between women undertaking TOLAC and those undergoing a repeat Cesarean delivery. Much of the evidence about the safety of a TOLAC versus ERCS is based on observational data. Recommendations and decisions about a TOLAC should be made cautiously, keeping the limitations of the literature in mind.

In 2010 the data were summarized in the Evidence Report/Technology Assessment Report *Vaginal Birth After Cesarean: New Insights*. The authors of this report identified 3,134 citations and reviewed 963 papers for inclusion,

of which 203 papers met inclusion and were quality rated.<sup>11</sup>

***Short term maternal benefits and harm with TOLAC vs ERCS<sup>11</sup>***

Potential Harm	TOLAC	ERCS	
Maternal Death	3.8 per 100,000 TOLAC (95% confidence interval (95% CI, 4.3–41.6) [CI], 0.9–15.5)	13.4 per 100,000 (95% CI, 0.009–0.082)	Significantly higher for ERCS
Uterine Rupture	4.7/1,000 (0.47%) (95% CI, 0.28–0.77)	0.3/1,000 (0.026%) (95% CI, 0.009–0.082)	Significantly higher for TOLAC
Length of Stay	2.55 days (95% CI, 2.34–2.76)	3.92 days (95% CI, 3.56–4.29)	Length of stay is higher for ERCS
Hemorrhage	6.6 per 1,000 (95% CI, 2.0–22.1)	4.6 per 1,000 (95% CI, 1.6–13.2)	Not statistically significantly different
Hysterectomy	0.17% (95% CI, 0.12–0.26)	0.28% (95% CI, 0.12–0.67)	Not statistically significantly different
Infection Rate	46 per 1,000	32 per 1,000	Not statistically significantly different

(95% CI, 15–135)	(95% CI, 13–73)	Note: A trend toward increased <b>Endometritis</b> was seen with ERCS compared with TOLAC; in contrast, chorioamnionitis was increased in TOLAC compared with ERCS. Increasing BMI was associated with increased fever in patients undergoing TOLAC.
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## Uterine Rupture

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Within the Evidence Report/Technology Assessment Report *Vaginal Birth After Cesarean: New Insights* it was noted that "While numerous studies have been published relating to uterine rupture and/or dehiscence (393 articles), only eight cohort studies were good or fair quality, included the population of interest, and used the anatomic definition for uterine rupture contained in this report."

The risk of uterine rupture for all women with a prior Cesarean delivery regardless of route of delivery is 0.3 percent (95% CI, 0.2–0.4). The risk of uterine rupture for women undergoing a TOLAC is significantly elevated at 0.47 percent (95% CI, 0.28–0.77) compared with women undergoing an ERCS (0.026; 95% CI, 0.009–0.082).

### Maternal morbidity.

There were no maternal deaths due to uterine rupture in any of the eight studies reviewed. The risk of hysterectomy due to uterine rupture ranged from 14% to 33%.<sup>11</sup>

### Risk factors for Uterine Rupture

The risk of uterine rupture among those women who had induction was lowest with oxytocin (1.1%), followed by PGE<sub>2</sub> (2%), and highest with misoprostol (6%). However, these risk estimations may be imprecise given the consistency in study design and methodology, and the results should be interpreted with caution.<sup>10</sup>

Women with a prior classical incision are at increased risk of uterine dehiscence or rupture. Compared with women with prior low transverse Cesarean delivery, women with prior low vertical Cesarean delivery or with an unknown scar are not at a significantly increased risk of uterine dehiscence or rupture.<sup>11</sup>

In a woman with a previous uterine incision, more clinical studies are required to evaluate the relationship between lower uterine wall thickness and the risk of uterine rupture before recommendations can be made about this practice.<sup>11</sup>

Women who are postdate may have a higher risk of uterine rupture. **Obese** and morbidly **Obese** women are more likely to suffer rupture and/or dehiscence.<sup>11</sup>

Women who had a previous cesarean for **Dystocia** in the **Second Stage** of labor are at higher risk of **Second Stage** uterine rupture at next delivery, especially in cases of suspected fetal **Macrosomia** or prolonged **Second Stage**.<sup>20</sup>

## Considerations for future pregnancies

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### Previa

Women with a prior Cesarean delivery had a statistically significant increased risk of **Placenta previa** compared with women with no prior Cesarean at a rate of 12 per 1,000 (95% CI: 8 to 15 per 1,000). The incidence increased with increasing number of prior Cesarean deliveries. Prior Cesarean was a significant risk factor for maternal morbidity in women with previa. Compared with previa patients without a prior Cesarean delivery, women with one prior Cesarean and previa had a statistically significant increased risk of blood transfusion (15% versus 32.2%), hysterectomy (0.7% to 4% versus 10%), and composite maternal morbidity (15% versus 23% to 30%). For women with three or more prior Cesarean deliveries and previa, the risk of hysterectomy and composite maternal morbidity rose significantly (0.7% to 4% versus 50% to 67%, and 15% versus 83%, respectively).<sup>11</sup>

### Accreta

The incidence of **Placenta accreta** rose with increasing number of prior Cesarean deliveries. The results were statistically significant for women with two or more prior Cesareans (odds ratio [OR] 8.6 to 29.8).<sup>11</sup>

Women with **Placenta previa** were at increased risk for **Placenta accreta**, and the risk increased with increasing number of prior Cesareans. Women with more than three prior Cesareans and previa had a 50% to 67% incidence of accreta.<sup>11</sup>

### Other Considerations

Any previous abdominal surgery, including C/S, or other conditions associated with pelvic inflammation are associated with adhesions. Adhesions were associated with increased perioperative complications, time to delivery, and total operative time. It is unclear whether adhesions and complications increase with increasing number of prior Cesareans.<sup>11</sup>

## Neonatal Morbidity and Mortality

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Neonatal mortality and morbidity are primarily related to uterine rupture. The overall risk of perinatal death due to uterine rupture is 6.2%.<sup>11</sup> Overall, the literature relating to response time between premonitory signs of uterine rupture and perinatal mortality is insufficient. However, there is suggestion that fetal bradycardia is an ominous sign for fetal extrusion, which is associated with poor perinatal outcomes.<sup>11</sup>

### ***Short-term benefits and harms to the baby of maternal attempt at TOLAC versus ERCS<sup>11</sup>***

#### Harm

#### TOLAC

#### ERCS

Perinatal Deaths

1.3 per 1,000

0.5 per 1,000

Significantly higher for  
TOLAC

(95% CI, 0.59–3.04) (95% CI, 0.07–3.82)

Sepsis	No differences in proven <b>Sepsis</b> in infants born after TOLAC versus those delivered by ERCS.
Apgar Scores	Four studies found no differences in Apgar scores of less than six and seven at 5 minutes in infants undergoing a TOLAC versus ERCS.
Neonatal Intensive Care Unit (NICU) admission	Six of eight studies found no significant differences in frequency of NICU admissions between TOLAC and ERCS.
Breastfeeding	No studies were found that explored the effect of a TOLAC versus an ERCS on breastfeeding initiation or continuation.
Additional Short-term Outcomes	There was insufficient evidence to determine if rates of respiratory distress, neonatal trauma, or <b>Asphyxia</b> /hypoxic-ischemic encephalopathy varied between TOLAC and ERCS.

## Prerequisites for offering a TOLAC

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Obstetrical guidelines recommend that a TOL should only be attempted in hospitals with the capability of providing an emergency Cesarean section.<sup>3,21</sup> This includes the availability of blood products and neonatal resuscitation personnel. There is little evidence to provide guidance about how quickly a Cesarean section (CS) would need to be done but 30 minutes is considered adequate.<sup>3</sup> It is prudent for hospitals and care providers offering a TOL to have protocols about how they will respond in case of an emergency, including when specialists needed for performing CS may not be "in house".<sup>3</sup> Women attempting a TOL should be informed of the available resources. Caregivers should be able to recognize the signs and symptoms of uterine scar rupture and have a management plan in place should this occur.

## Selection of Candidates for TOLAC

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Informed consent today for any woman who desires a TOLAC should include a documented discussion of the risks and benefits of elective C/S versus TOLAC.

The selection of candidates for TOLAC depends on the clinical situation and is re-evaluated on an ongoing basis throughout the pregnancy. Macones and colleagues tried, without success, to develop clinical models using both antepartum and early intrapartum factors to predict uterine rupture.<sup>22</sup>

Reviewers of these prediction models suggest that while they may be improving enough to predict the likelihood of success at a population level, they are not able to predict the likelihood of success for an individual.<sup>23</sup>

The following information should be addressed in discussions with women considering a TOLAC or an ERCS to assist them in making choices appropriate to their individual circumstances. There is growing evidence that the use of formalized decision aids can be very helpful in providing visual explanations of risks and benefits relating to choice of TOLAC versus ERCS.<sup>24</sup>

There are some excellent resources available to help women who are thinking about VBAC. One example is British Columbia's Best Birth Clinic handout called "[Vaginal Birth After Cesarean and Planned Repeat Cesarean Birth](#)" which may be useful. Another was created by the Ottawa Health Decision Centre<sup>24</sup> and may be helpful in assisting women.

It may also be helpful for practitioners to understand some of the rationales for women's choices. A review that looked at the factors that influence women to attempt TOLAC versus planning an elective Cesarean birth identified the following issues:

- physician influence
- recovery time and the need to return to caring for other children
- ethnic differences
- safety for mother and baby.<sup>25</sup>

## **Considerations**

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### **Type of previous incision**

Guise et al did a comprehensive review of the literature from 1980 to February 2004 to identify studies comparing the risks and outcomes of TOLAC versus Cesarean birth.<sup>26</sup> This review combined uterine rupture and dehiscence rates (seven studies from 1983 to 1999). They suggested that there might be little difference in uterine rupture or dehiscence in women with lower uterine segment vertical incisions compared to women with low segment transverse incisions.

### **Number of previous Cesarean deliveries**

Retrospective data showed an increase in uterine rupture after two prior C/S (3.7% vs .8%). Better quality prospective evidence shows no increase in risk in rupture rate compared with one previous C/S (0.9% vs 0.7%).<sup>27</sup>

### **Type of closure of previous uterine incision**

The risk of uterine rupture after an unlocked single-layer closure seems to be comparable with that after a double-layer closure.

Single-layer **locked**, continuous suturing as opposed to a double-layer closure of the hysterotomy site may increase the risk of uterine rupture in women attempting TOL in a future pregnancy.<sup>28</sup>

## Interbirth interval

Another 2010 study by Bujold et al showed an inter-delivery interval shorter than 18 months should be considered as a risk factor for uterine rupture, but not between 18 and 24 months as previously thought. The population in this study consisted of only singleton pregnancies with a TOLAC at term with one previous CS.<sup>29</sup>

## Hypertensive disorders of pregnancy

Data from a large retrospective cohort study (n=25,500) showed that women with gestational hypertension were less likely to choose a TOLAC and were also less likely to be successful in having a VBAC than normotensive women. Women with gestational hypertension who attempted VBAC were no more likely to have uterine rupture than those who were normotensive.<sup>16</sup>

## Twin Pregnancy

Outcomes are similar to those women with a singleton pregnancy who attempt VBAC.<sup>2,10</sup>

## Summary

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**Based on the available literature, the SOGC recommends that a TOLAC be offered to women with one previous transverse low-segment C/S following appropriate discussion of maternal and perinatal risks and benefits.<sup>3</sup> Women will need to understand the evidence in order to make informed decisions about planning a TOLAC versus a planned repeat Cesarean.** Women with more than one previous CS delivery may be candidates for TOLAC.<sup>30</sup>

1. Prerequisites for a trial of labor after previous Cesarean birth – consider using the Case Management Guide as a template:

- Cephalic Presentation
- Previous operative report (if available, opinion of previous surgeon may be helpful)
- If operative report not available: TOLAC is acceptable if clinical circumstances surrounding prior CS suggest uncomplicated lower segment incision
- No contraindications to vaginal birth

2. Factors that may increase the risk of uterine rupture - consider using the Case Management Guide as a template:

- Single layer (versus two layer) closure of the previous uterine incision
- Macrosomic fetus
- Short interval from previous Cesarean section (< 18 months)
- More than two previous Cesarean section
- Previous Cesarean for Dystocia in the Second Stage of labor<sup>20</sup>
- Locked Single-layer closure of the previous uterine incision (single layer unlocked or two-layer closure acceptable)<sup>28</sup>

3. Contraindications to a TOLAC - consider using the Case Management Guide as a template:

- Any contraindications to labor
- Previous or suspected Classical Cesarean section ,
- Previous inverted T uterine incision
- Previous uterine rupture
- Previous major uterine reconstruction (e.g., full thickness repair for Myomectomy , repair of Müllerian anomaly , Cornual resection )

- Inability of the facility to perform a Cesarean section
  - Woman requests ERCS rather than a TOLAC
4. Benefits of VBAC:
- Shorter hospitalization
  - Shorter recovery time for the woman
  - Decrease in the incidence of postpartum fever and blood transfusion
  - Improved maternal satisfaction
  - Reduced healthcare costs<sup>31</sup>
5. Risks of TOLAC
- Uterine rupture
  - ChorioamnionitisHemorrhage
  - Blood transfusion
  - Hysterectomy
6. Patient counseling during the decision-making process (this should be documented) - consider using the Case Management Guide as a template:
- Discuss the risks and benefits of both a TOLAC and ERCS, including possible effects on future pregnancies
  - If considering induction of labor, carefully review the risks associated with each of the available induction options
  - Offer written information (e.g. published guidelines from professional organizations, decision aids)
  - Encourage the woman and her partner to participate in decision-making
  - Recommend resources that provide additional information when applicable
  - Respect the woman's Autonomy
  - Document the counseling and informed choice process including the woman's decision and a plan of care

## Management

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### 1. Conduct of Labor

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Studies have reported that women admitted with a more favorable cervical status in spontaneous labor have a two-fold increase in the likelihood of VBAC compared to those with an unfavorable cervix.<sup>10,32</sup>

Antepartum consultation with an obstetrician may be advisable, depending on the clinical situation and local practice. The management of a TOLAC involves:<sup>3</sup>

- Careful observation of:
  - Labor progress-lack of progress with adequate contractions for 2-3 hours warrants reassessment of the mode of delivery
  - Fetal well-being
  - Maternal well-being
- Epidural or other analgesia may be used for usual indications
- Electronic fetal monitoring (EFM) during active labor is recommended. The EFM tracing is the best marker of uterine rupture
- There is no need to restrict activity (telemetry can facilitate mobility while allowing continuous monitoring)
- Consider use of a checklist (the VBAC Case Management Guide is a good example, it can then be used as a template for complete documentation)

### 2. Induction and Augmentation

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Induction of labor for maternal or fetal indications remains an option for women undergoing TOLAC. However, the potential increased risk of uterine rupture associated with any induction, and the potential decreased possibility of achieving VBAC, should be discussed.<sup>2</sup>

Induction of labor that requires cervical ripening is associated with a lower rate of successful VBAC and an increased risk of uterine rupture. This is mainly in women with no prior vaginal birth. Induction and augmentation of labor in women undergoing a TOLAC **remain controversial and require caution.**

### Key Points

Recommendations regarding the induction or augmentation of labor during a trial of labor for TOLAC include:<sup>3</sup>

- Mechanical cervical ripening with a Foley catheter has been safely used prior to induction of labor in this clinical situation
- The use of oxytocin is acceptable but careful surveillance is recommended as is consideration of the maximum dose to be administered. If oxytocin is used, then a low-dose protocol is recommended.
- Prostaglandins have been associated with increased risk of rupture and should not be used.
- The timely availability of the human and physical resources to respond to an emergency is required.

All of these issues should be carefully considered and discussed with the woman before a management plan is finalized. Informed consent is essential before induction commences.

### 3. Signs, Symptoms, and Management of Uterine Scar Rupture

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Vigilance and early recognition of uterine rupture by the healthcare **Team** is an essential component of TOLAC.

Classically, the signs and symptoms of uterine rupture include:

- fetal heart rate (FHR) abnormalities,
- vaginal bleeding.
- Acute onset of scar pain or tenderness (seldom masked by an epidural; this sign is neither sensitive nor specific)

Other signs and symptoms may include:

- **Hematuria**
- Maternal tachycardia, hypotension or hypovolemic shock
- Easier abdominal palpation of fetal parts
- Unexpected elevation of the presenting part
- Chest pain, shoulder tip pain and/or sudden shortness of breath
- A change in uterine activity (decrease or increase) is an uncommon and unreliable sign.

### Management of Uterine Rupture

**This is a perinatal emergency.** Survival of the mother and fetus depends on:

- Prompt identification
- Rapid volume expansion and the use of blood products
- Timely access to a surgical Team for surgical intervention
- Uterine repair or hysterectomy
- Prophylactic antibiotics
- The attendance of a neonatal resuscitation Team

A 2014 study of 97,028 births identified 52 uterine ruptures (0.05%): 25 complete and 27 partial. Most (89%) occurred in women with a previous cesarean delivery. In complete ruptures, FHR abnormalities were the most frequent sign (82%), while the complete triad of FHR abnormalities—pain—vaginal bleeding was present in only 9%. The signs and symptoms of partial ruptures were very different; these were asymptomatic in half the cases (48%).<sup>33</sup>

## Summary

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The success rate for a TOLAC is quite high. Accepting that some women who attempt TOLAC will be unsuccessful, the overall maternal morbidity and mortality is less than ERCS. Best evidence suggests that VBAC is a reasonable and safe choice for the majority of women with previous Cesarean.<sup>11</sup>

Induction may be attempted, but oxytocin should be used with caution in patients who have a protracted active phase of labor.

While the incidence of uterine rupture is low, it is a serious complication for both the woman and the infant. The increased risk of uterine rupture associated with a TOLAC underlines the need for careful selection of candidates, counseling, and management in labor.

It is essential to discuss the risks of TOLAC and those of ERCS, including the effect that the mode of delivery will have on subsequent pregnancies with women who have had a previous Cesarean section.

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