

PROTOCOL #31 - Maternal Fetal Medicine, University of New Mexico

MANAGEMENT OF NON-CATASTROPHIC TRAUMA IN OBSTETRICS PATIENTS  
Revised 10/10/03

Non-catastrophic trauma in obstetrics patients as a result of motor vehicle accidents, domestic violence, or falls is a common problem. There is little consensus about which patients deserve prolonged observation, and what manner of surveillance is appropriate. The following guidelines present an approach which attempts to avoid extremes.

Non-catastrophic trauma excludes those patients in shock, those with severe head or spinal cord injuries, those with thoracic injuries requiring thoracotomy, or visceral injuries requiring laparotomy, and those with pelvic fractures. Although such patients will clearly require an obstetrical consult, we are unlikely to be the primary service.

1. All obstetric trauma patients seen in the triage area or the emergency room will have a detailed history of the accident mechanism taken and a complete physical exam performed. Abdominal, pelvic, and to a lesser degree thoracic trauma are the types most associated with poor pregnancy outcomes; isolated extremity or facial trauma poses little risk.
2. Continuous electronic monitoring of the fetal heart rate and uterine tocodynamometry will be carried out for 2-4 hours, ideally on L&D, for all patients with a gestational age thought to be at least 24 weeks. For younger gestational ages, fetal cardiac activity should be ascertained.
3. Under certain circumstances, depending on local trauma protocols, the patient may not be deemed a stable candidate for L&D placement. Attempts should be made to work collaboratively with the trauma service in order to find an appropriate location for the patient. The assignment of a pregnant trauma patient to a bed off the labor ward DOES NOT obviate the need for fetal monitoring as outlined here.
4. A baseline CBC and type and screen will be drawn. If the woman is known to be Rh negative, a Kleihauer-Betke may be helpful in deciding how much Rh immune globulin to give. Whether R positive or negative, a Kleihauer-Betke may be helpful in deciding the length of monitoring: women with a negative K-B are unlikely to develop uterine contractions, thus can be discharged after briefer periods of monitoring.
5. Rho (D) Immune Globulin will be given to all Rh negative mothers.
6. Patients who exhibit vaginal bleeding, uterine contractions, or signs of possible fetal compromise during the initial evaluation period should be admitted for at least a 24-hour observation, which must include extended fetal monitoring at or after 24 weeks' gestation. The presence of a positive Kleihauer-Betke stain, regardless of Rh status, signifies fetomaternal hemorrhage and has been shown to be predictive of preterm labor, with a likelihood ratio more than 20-fold higher than in K-B negative patients; thus KB-positive patients must be kept for at least 24 hours..

In patients who lack these findings, the pregnancy is rarely affected and these patients can be

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sent home after the above brief observation period.

6. All obstetric patients are specifically reminded of the value of properly worn lap and shoulder restraints during pregnancy. The lap belt should be positioned over both anterior superior iliac spines and pubic symphysis and the shoulder belt worn between the breasts; neither should be over the bulge of the uterus.
7. If the history suggests domestic violence, social service consultation is indicated. The patient should not be sent home to an unsafe situation. This may mean alternate housing arrangements, police involvement, or as a last resort, continued in-hospital observation.
  8. In cases of assault, whether domestic or otherwise, although the victim's wishes are paramount, consideration should be given to notifying law enforcement authorities. A photographic record of the victim's injuries can be established with her consent. Remember that these cases may go to court, and that documentation in the chart should be impeccable.
  9. In cases of severe maternal trauma, a poor fetal outcome may still occur despite reassuring initial fetal assessment. The patient should be counseled that the distant outcome for the fetus cannot be predicted.

Anquist KW, Parnes S, Cargill Y. An unexpected fetal outcome following a severe maternal motor vehicle accident. *Obstet Gynecol* 1994; 84: 656-9

Muench MV, Harman C, et al. In maternal trauma patients, Kleihauer-Betke testing predicts preterm labor. Poster presented at 22<sup>nd</sup> annual meeting, Society for Maternal Fetal Medicine, January 2002, New Orleans LA. In press, *J Trauma Crit Care* 2003

American College of Obstetricians and Gynecologists, Educational Bulletin 251, September 1998.

**CONSULTATION:** Twenty-Four hour consultation is available by calling the Maternal Fetal Medicine service at the University of New Mexico Hospital, 1-888-866-7257.