

## Endocrine and Uterine Activity Rhythms in the Perinatal Period

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### Abstract

Preterm labor and delivery, with their associated excessive morbidity and mortality, continue to be a major health problem. Annually in the United States alone, approximately 1 in 12 births occurs prematurely. Further, these premature newborns account for about 75% of perinatal morbidity and mortality. 1 Post-date pregnancy is also a notable problem. Despite significant advances in recent years, our knowledge of the physiologic, endocrine, and molecular events that initiate labor is still incomplete. An understanding of the precise role of the factors involved in this process is imperative. Consequently, it is not until we understand the normal process that we will be able to effectively prevent or treat premature labor and delivery. As part of our efforts to understand the process of parturition, it has become evident that there is a relatively precise timing of the events that precede delivery. Due to obvious ethical considerations, human experimentation is extremely limited. The majority of data regarding the factors that affect the timing of parturition are from animal studies, including rodents<sup>2-4</sup> and sheep. 5-7 These studies have focused on a wide range of endocrine, physiologic, and behavioral patterns that are repetitive and predictable, ie, rhythms. This article focuses on endocrine rhythms in the human and nonhuman primate, with specific emphasis on their role in the physiologic events leading to parturition.