# Antenatal Corticosteroid Therapy for Improving Neonatal Outcomes: Balancing Benefits and Risks

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SOGC has updated their previous 2003 guideline on antenatal corticosteroid therapy after synthesizing the evidence that has accumulated over the last several years.[1] This commentary provides a brief overview of the new guideline's recommendations (Table), highlights key issues, contrasts the current recommendations with those in the 2003 guideline and those in the guidelines of other national obstetric institutions, and suggests a few areas for future research.

*Shared co-first authorship.
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## OVERVIEW AND KEY ISSUES

The central recommendation pertains to the administration of one course of antenatal corticosteroid therapy for women at high risk of preterm birth between 24 + 0 and 34 + 6 weeks gestation. The recommendation has a strong basis because it is supported by a large body of evidence that demonstrates a significant reduction in perinatal morbidity and mortality. The guideline also reiterates the importance of exposure to antenatal corticosteroid therapy between 24 hours and 7 days before delivery to maximize the expected benefits. It emphasizes the need for ensuring that such therapy is confined to women at high risk of preterm delivery. Loose interpretation of this indication (women considered at high risk of preterm delivery) has led to considerable overuse of antenatal corticosteroid therapy, with approximately 52% of women who receive antenatal corticosteroid therapy delivering at 35 weeks gestation or later.[2] The new guideline provides some guidance on indications that support administration to achieve optimal timing of treatment. For example, spontaneous preterm labour is an indication for antenatal corticosteroid therapy initiation. However, spontaneous preterm labour should be characterized by regular uterine contractions and significant cervical dilation or change on repeated examination; in the absence of cervical dilation or change or of regular contractions, antenatal corticosteroid therapy should not be administered.

**Table. Recommendations from the 2018 Canadian antenatal corticosteroid therapy guideline**

| | Recommendation | Level of evidence | Strength of recommendation |
|---|---|---|---|
| | GA | | |
| 1 | One course of antenatal corticosteroid therapy should be routinely administered to women at 24 + 0 to 34 + 6 weeks gestation who are at high risk for preterm delivery within the next 7 days. | Moderate | Strong |
| 2 | Women between 22 + 0 weeks and 23 + 6 weeks gestation at high risk of preterm birth within the next 7 days should be provided with a multidisciplinary consultation regarding the high likelihood for severe perinatal morbidity and mortality and associated maternal morbidity. Antenatal corticosteroid therapy may be considered if early intensive care is requested and planned. | Low | Conditional |
| 3 | The balance of risks and benefits does not support routine administration of antenatal corticosteroid therapy for women at 35 + 0 to 35 + 6 weeks gestation who are at high risk for preterm birth in the next 7 days. | Moderate | Conditional |
| 4 | Antenatal corticosteroid therapy should not be routinely administered to women at 36 + 0 to 36 + 6 weeks gestation who are at risk for preterm delivery. | Moderate | Conditional |
| 5 | Antenatal corticosteroid therapy may be administered between 35 + 0 and 36 + 6 weeks gestation in select clinical situations after risks and benefits are discussed with the woman and the pediatric care provider(s). | Moderate | Conditional |
| 6 | Elective pre-labour CS should be performed at or after 39 + 0 weeks gestation to minimize respiratory morbidity. | Low | Strong |
| 7 | Antenatal corticosteroid therapy should not be routinely administered to women undergoing pre-labour CS at term gestation (including at 37 and 38 weeks gestation). | Low | Strong |
| | Agents, dosage, regimen, and target timing | | |
| 8 | When antenatal corticosteroid therapy is indicated, women should receive a course of antenatal corticosteroid therapy (i.e., either two 12-mg doses of betamethasone given by intramuscular injection 24 hours apart or four 6-mg doses of dexamethasone given by intramuscular injection 12 hours apart). | Moderate | Strong |
| 9 | Antenatal corticosteroid therapy should be administered to women requiring medically indicated delivery, only when the plan to proceed with delivery within 7 days has been finalized and GA criteria for antenatal corticosteroid therapy are met. | Low | Strong |
| 10 | Antenatal corticosteroid therapy should be routinely administered to women in spontaneous preterm labour characterized by **regular uterine contractions associated with significant cervical dilation or significant cervical change on repeated examination** when GA criteria for antenatal corticosteroid therapy are met.<br>Regular contractions in the absence of cervical dilation or change, or a short cervical length in the absence of regular contractions, are not indications for antenatal corticosteroid therapy. | Low | Strong |
| 11 | Antenatal corticosteroid therapy should be routinely administered at the time of diagnosis to women with preterm premature rupture of membranes when GA criteria are met. | Low | Strong |
| 12 | Antenatal corticosteroid therapy should be administered to women with significant antepartum hemorrhage when the risk of delivery within 7 days is high and the GA criteria are met. | Low | Strong |
| 13 | Antenatal corticosteroid therapy should be administered in asymptomatic patients with vasa previa or placenta previa when the risk of delivery within 7 days is high and the GA criteria are met. | Low | Strong |
| 14 | In cases where the diagnosis of preterm labour has not been firmly established (i.e., no documented cervical change and dilatation <3 cm), and the woman is being transferred to a higher level of care for further assessment, antenatal corticosteroid therapy should not be administered prior to transfer. | Low | Strong |
| 15 | If the risk of preterm delivery decreases significantly following administration of the first dose of antenatal corticosteroid therapy, cancellation of the second dose of corticosteroids should be considered. If the second dose is cancelled and a high risk of preterm birth arises subsequently at less than 34 + 6 weeks gestation, one dose or one course of antenatal corticosteroid therapy should be considered depending on GA and the duration since the first dose. | Low | Strong |
| 16 | If the woman remains undelivered beyond 7 days after the first antenatal corticosteroid course, the balance of risks and benefits does not support further routine administration of antenatal corticosteroid therapy even if the risk of preterm delivery increases subsequently. The GA and the time interval since the first course of antenatal corticosteroid therapy (at least 14 days) should be taken into account when considering a rescue course. A single rescue course of antenatal corticosteroid therapy may be administered after risks and benefits are discussed with the woman. | Moderate | Conditional |

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