



ALERT



ATTENTION: Perinatal Care Providers

Update on Antenatal Corticosteroid Therapy in light of Betamethasone Shortage in British Columbia

There is a shortage of Betamethasone (Betaject and Celestone Soluspan 1mL and 5mL vials of 6 mg/mL) that is affecting hospitals in B.C. This is related to a raw materials shortage and it is unknown when this situation will be resolved.

The interim recommendation for antenatal corticosteroids is

- Where Betamethasone is still available **Betamethasone 12mg every twenty-four hours for two doses** is the first choice for antenatal corticosteroids.
- When the supply of Betamethasone is depleted at your facility the alternate is **Dexamethasone 6mg IM every 12 hours for four doses**. Oral use of Dexamethasone is not a reasonable alternative.

If transfer occurs during the course of antenatal corticosteroids the recommendations are

- If a woman is started on a course of Dexamethasone and is transferred to a facility that still has Betamethasone **the course of Dexamethasone should be completed**.
- If a woman is started on a course of Betamethasone and is transferred to a facility with Betamethasone the **Betamethasone course should be completed**.
- If a woman receives Betamethasone and is transferred to a facility without Betamethasone available the women should receive **Dexamethasone 6 mg every twelve hours starting 24 hours after the dose of Betamethasone for two further doses**.

The evidence to support this **interim** recommendation is attached.

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The interim recommendation to use dexamethasone as an alternative to betamethasone is based on the resources below. Key highlights from the documents have been included. All documents are accessible on line.

No randomized trial has compared dexamethasone to betamethasone. Non-head to head comparisons suggest there may be some advantages of betamethasone over dexamethasone and vice versa. A fuller review will occur when betamethasone is available to make recommendations for the ongoing use of antenatal corticosteroids. In the interim patients and their providers can be reassured that dexamethasone is an acceptable alternative that has been shown in randomized placebo controlled trials to be protective against RDS and other consequences of prematurity.

Cochrane Library Reviews

Antenatal corticosteroids for accelerating fetal lung maturation for women at risk of preterm birth (Review) Roberts D, Dalziel SR

From the Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2009, Issue 2

“RESULTS

Antenatal corticosteroids versus placebo or no treatment (by type of corticosteroid)

Data were available by type of corticosteroid used for several of the primary outcomes that relate to the mother and fetus or neonate. Both dexamethasone and betamethasone significantly reduced combined fetal and neonatal death, neonatal death, RDS and cerebroventricular haemorrhage. Betamethasone treatment (RR 0.56, 95%CI 0.48 to 0.65, 14 studies, 2563 infants) resulted in a greater reduction in RDS than dexamethasone treatment (RR 0.80, 95% CI 0.68 to 0.93, six studies, 1457 infants). No statistically significant differences between groups treated with antenatal corticosteroids and controls in fetal death, birth weight or chorioamnionitis were seen in subgroups treated with dexamethasone or betamethasone separately. However, dexamethasone significantly increased the incidence of puerperal sepsis (RR 1.74, 95%CI 1.04 to 2.89, four studies, 536 women) while betamethasone did not (RR 1.00, 95% CI 0.58 to 1.72, four studies, 467 women).”

Different corticosteroids and regimens for accelerating fetal lung maturation for women at risk of preterm birth (Review) Brownfoot FC, Crowther CA, Middleton P

From the Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2009, Issue 2

“Authors’ conclusions

Dexamethasone may have some benefits compared with betamethasone such as less intraventricular haemorrhage, although perhaps a higher rate of NICU admission (seen in only one trial). Apart from a suggestion from another small trial that the intramuscular route may have advantages over an oral route for dexamethasone, few other conclusions about optimal antenatal corticosteroid regimens were able to be made. Trials of commonly used corticosteroids are most urgently needed, followed by trials of dosages and other variations in regimens.”

Alert – Betamethasone Shortage
July 10, 2009

SOGC Committee Opinion No. 122, January 2003 Antenatal Corticosteroid Therapy for Fetal Maturation

Recommendations:

The SOGC supports the recommendations of the NIH Consensus Development Panel:

1. All pregnant women between 24 and 34 weeks' gestation who are at risk of preterm delivery within 7 days should be considered candidates for antenatal treatment with a single course of corticosteroids. (I-A)
2. Treatment should consist of two 12 mg doses of betamethasone given IM 24 hours apart, or four 6 mg doses of dexamethasone given IM 12 hours apart (I-A). There is no proof of efficacy for any other regimen.
3. Because of insufficient scientific data from randomized clinical trials regarding efficacy and safety, repeat courses of corticosteroids should not be used routinely (II-2E) but be reserved for women participating in randomized controlled trials.

National Institutes of Health Consensus Development Conference Statement 1994 The Effect of Corticosteroids for Fetal Maturation on Perinatal Outcomes

"Treatment of two doses of 12 mg of betamethasone given intramuscularly 24 hours apart or four doses of 6 mg of dexamethasone given intramuscularly 12 hours apart has been shown to be effective. Although these regimens were arbitrarily selected, subsequently they have been shown to deliver concentrations to the fetus that are comparable to physiologic stress levels of cortisol occurring after birth in untreated premature infants who develop RDS."