Does cervical membrane stripping in women with group B *Streptococcus* put the fetus at risk?

**Evidence-based answer**

No direct evidence points to fetal harm from cervical membrane stripping (CMS) to induce labor in term pregnancies complicated by group B *Streptococcus* (GBS) colonization (strength of recommendation [SOR]: B, a Cochrane systematic review).

**Evidence summary**

A Cochrane review of 22 trials (N=2,797) comparing CMS with no CMS in uncomplicated term deliveries demonstrated no significant differences in fetal outcomes. The groups showed similar rates of maternal infection and fever (relative risk [RR]=1.05; 95% confidence interval [CI], 0.68–1.65), neonatal infection (RR=0.92; 95% CI, 0.30–2.82), and Apgar scores <7 at 5 minutes (RR=1.13; 95% CI, 0.53–2.43). Two perinatal deaths were reported in each group. The review was limited by relatively small trials and heterogeneity between trial results, suggesting the possibility of publication bias.

Most of the studies included in the meta-analysis did not specifically include or exclude women with GBS colonization, nor did the review subanalyze patients into a GBS-positive and GBS-negative arm. Considering that GBS colonization was reported in 19% to 26% of pregnancies, it is likely that GBS colonization was present in both CMS and control groups in the review.

**Study shows no CMS effects, but may be underpowered**

A randomized prospective study (N=98) included in the Cochrane review specifically considered the effects of CMS and maternal GBS colonization. Colonization rates for the study were 17% (9/44 in the study group, 8/54 in the control group). Women in the study group underwent weekly CMS beginning at 38 weeks of gestation; the control group did not undergo CMS. Repeat GBS testing was performed at 40 weeks for all patients with initial GBS-negative cultures.
Three patients were GBS-positive on repeat testing (1 in the study group, 2 in the control group). No admissions to the neonatal intensive care unit or neonatal infections occurred in either group. The study may have been underpowered to detect any effect, however.

**Recommendations**

The American College of Obstetricians and Gynecologists’ 2009 Practice Bulletin on induction of labor states that the data are insufficient to either recommend or discourage CMS to induce labor in women who are GBS-positive.

The 2009 Veteran’s Administration/Department of Defense Clinical Practice Guidelines for Pregnancy Management also cite insufficient data to support or oppose CMS in GBS-positive term pregnant women.

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**REFERENCES**


**FIGURE**

Sample algorithm for management of a newborn whose mother received intrapartum antimicrobial agents for prevention of early-onset group B streptococcal disease or suspected chorioamnionitis

<table>
<thead>
<tr>
<th>Maternal IAP for GBS?</th>
<th>Maternal antibiotics for suspected chorioamnionitis?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Signs of neonatal sepsis?</td>
<td>Full diagnostic evaluation* Empiric therapy*</td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Gestational age &lt;35 weeks?</td>
<td>Limited evaluation* Observe ≥48 hours if sepsis is suspected, full diagnostic evaluation, and empiric therapy*</td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Duration of IAP before delivery &lt;4 hours?*</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>No evaluation No therapy Observe ≥48 hours*</td>
<td></td>
</tr>
</tbody>
</table>

This algorithm is not an exclusive course of management. Variations that incorporate individual circumstances or institutional preferences may be appropriate.

GBS=group B *Streptococcus*; IAP=intrapartum antibiotic prophylaxis.

*If no maternal intrapartum prophylaxis for GBS was administered despite an indication being present, data are insufficient on which to recommend a single management strategy.

†Includes complete blood cell count (CBC) and differential, blood culture, and chest radiograph if respiratory abnormalities are present. When signs of sepsis are present, a lumbar puncture, if feasible, should be performed.

‡Duration of therapy varies depending on results of blood culture, cerebrospinal fluid findings, if obtained, and the clinical course of the infant. If laboratory results and clinical course do not indicate bacterial infection, duration may be as short as 48 hours.

§CBC with differential and blood culture.

*Applies only to penicillin, ampicillin, or cefazolin and assumes recommended dosing regimens (see http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5111a1.htm, Box 2).

†A healthy-appearing infant who was ≥38 weeks’ gestation at delivery and whose mother received ≥4 hours of intrapartum prophylaxis before delivery may be discharged home after 24 hours if other discharge criteria have been met and a person able to comply fully with instructions for home observation will be present. If any one of these conditions is not met, the infant should be observed in the hospital for at least 48 hours and until criteria for discharge are achieved.