

Procedures

Please note:

The following procedures are samples provided by various hospitals, which were reviewed and modified for use in this manual. It is important that any procedure reflects the practice within an institution, so please review the content carefully and revise as applicable to your facility.

Sterile Speculum Exam Policy and Procedure

DEFINITION AND PURPOSE:

The sterile speculum exam is used to assist the practitioner to determine if amniotic membranes have ruptured.

Amniotic fluid contains a high amount of a salt called sodium chloride. If drops of the fluid are spread on a glass slide, allowed to dry, and examined through a microscope, a characteristic palm leaf pattern can be seen. This is why it is sometimes called “arborization” or the fern test.

POLICY:

1. RN may conduct a sterile speculum exam after:
 - a. Completing the competency and
 - b. Obtaining a provider’s order.

EQUIPMENT:

- Sterile speculum
- Nitrazine paper or Amniotest[®] kit
- Sterile gloves
- Microscope slides
- Microscope, if read on unit
- Bright light source
- Sterile cotton tip swabs
- Sterile sponge forceps

PROCEDURE:

1. Prepare your supplies:
 - a. If you are alone, open the package containing the sterile speculum in such a way that you can grasp the handle for removal after you have put on a sterile glove. Prepare a piece of Nitrazine paper or open the amniotest package before donning sterile gloves.
 - b. It is helpful to have someone assist you and support the woman throughout the examination.

2. Preparing the woman:
 - a. Tell her in terms she can understand what you are going to be doing.
 - b. Ask the woman to empty her bladder.
 - c. Have the woman remove her underclothing and lie on the examining table or in bed, using an inverted bedpan covered by towels to raise her hips. Assist her to relax with her legs bent, feet resting flat on the table or in the stirrups. Place a pillow under her head and ask that she rest her hands across her abdomen or at her sides.

Sterile Speculum Exam Policy and Procedure (con't)

3. Position the light source so that the perineum is well lit.
4. Select the appropriate sterile speculum (medium or large).
5. Sit down on the stool and ask the woman to separate or spread her legs. Do not try to use force or even gently separate her legs.
6. Assist the woman in relaxing. If she knows a relaxation and breathing technique learned previously, have her use it. If not, have her do slow, deep, relaxed breathing. Ask her to let herself go limp, to think of herself as a rag doll.
7. If the woman becomes upset or tense during the examination, stop whatever you are doing. Do not remove your fingers, simply hold your hand still. Find out what is bothering her. Try to distinguish between discomfort as a result of pressure, fear, or actual pain. Wait until she has regained control, helping her to relax.
8. Tell her what you are doing as you touch her inner thigh with the back of your gloved hand, which is not holding the speculum.
9. Using this same hand, place two fingers just inside the introitus and gently press down on the base of the vagina.
10. With your other hand, introduce the closed speculum past your fingers at approximately a 45-degree angle downward. Keep a moderate downward pressure on the blades to avoid upward pressure on the sensitive bladder and to vaginal wall. If a lubricant is needed for the speculum examination, use only sterile water. Many people use no lubricant.
11. After the speculum is in the vagina, remove your fingers from the base of the vaginal opening. Turn the blades of the speculum into a horizontal position, all the while keeping a moderate downward pressure.
12. Tell the woman she might feel pressure. Move your thumb to the thumb piece and press to open the blades so that the cervix is in view.
13. Sweep the blades slowly upward by gently pressing on the handle. If this does not bring the cervix into view, close the blades; withdraw the speculum a little. Warn the woman of the extra pressure she might feel. Then, while pressing down firmly, move the blades toward the back of the vagina again. Sometimes the tip of the blades needs to be directed more anteriorly or posteriorly, depending on the position of the cervix.
14. When the cervix is in view tighten the thumbscrew to keep the blades open.
15. If membranes are ruptured, fluid will be seen seeping from the cervical opening. Note the color and odor. Deep yellow color probably indicates the release of meconium approximately 1-2 days previously. Greenish-brown color indicates fresh meconium staining of amniotic fluid. Use this opportunity to screen for any signs of abnormalities, such as bleeding. Heavy bloody show can alert you to an advanced state of labor.

OBTAINING SPECIMENS FOR NITRAZINE AND FERN TESTING:

NITRAZINE/AMNIOTEST®

16. Obtain a specimen of the suspected leaking fluid by placing a sterile cotton-tipped applicator or the Amniotest® swab into the pool of fluid accumulating in the lower blade.
17. Touch the cotton-tipped applicator on a fresh strip of Nitrazine paper, moistening it well.

FERNING

18. Locate the cervix. If the membranes are ruptured, fluid can leak from the cervix if the woman is asked to cough or “bear down.”
19. Insert a sterile cotton-tipped applicator and place it in the fluid accumulating in the lower blade. Avoid touching the cervical opening.
20. Roll the cotton-tipped applicator on the slide, spreading the specimen thinly over at least two-thirds of the slide.
21. Allow the slide to dry for 5-7 minutes.
22. Removing the speculum:
 - a. Release the thumbscrew on the thumb piece. Hold the blades apart by pressing on the thumb piece and begin withdrawing the speculum until the cervix is released from between the blades.
 - b. Release your pressure on the thumb piece and allow the blades to close. Avoid pinching the vaginal tissue or pubic hair when the blades close. Rotate the blades to a sideways position and exert downward pressure. As the blades are eased out, hook your index finger over the top blade to control it.
23. Note the odor or any vaginal discharge pooled in the bottom blade.
24. Deposit the speculum in the proper container.
25. Wipe any moisture or discharge from the perineal area.

EVALUATING RESULTS:

NITRAZINE PAPER

26. Compare the color, which the moistened paper turns, to the standard color chart on the package of Nitrazine. Because amniotic fluid is neutral (pH 7.0) or slightly alkaline (pH 7.25), it will change the yellow color of Nitrazine Paper. The pH values of blood, vaginal mucus, and certain secretions from vaginal infections are also

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alkaline. If the amount of amniotic fluid is small or absent but the above substances are present in large amounts, a false-positive test could result. The Nitrazine or amniotest can assist with the diagnosis of ruptured membranes. It will be most reliable, if used with the fern test.

Findings on Nitrazine Paper (be aware of the possibility of false readings):

- Probably membranes are not ruptured:
 - Yellow – pH 5.0
 - Olive – pH 5.5
 - Olive-green – pH 6.0

- Probably membranes are ruptured:
 - Blue – Green – pH 6.5
 - Blue –grey – pH 7.0

- May be due to blood or cervical mucous:
 - Deep blue – pH 7.5

AMNIOTEST[®] - Follow manufacturer's instructions.

FERNING

27. Microscope use:

- a. Turn on light source (rear lower right side of scope).
- b. Adjust ocular lenses to fit your face.
- c. Use 10x or 40x to look for ferning.
- d. Use large knobs to adjust focus.
- e. Use stage adjustment to move slide.

28. Send slide to lab or have physician read the test.

29. Notify provider of results, if read in laboratory.

DOCUMENTATION:

30. Document the exam, patient tolerance of procedure and all findings. Notify provider, if test read in laboratory.

REFERENCE:

Martin, Jean (2002). Intrapartum Management Modules (3rd Ed.): A Perinatal Education Program. Williams and Wilkins. New York.

Procedure For Perinatal: Sterile Speculum Exam, Performing/Collecting Lab Specimens

OSHA CATEGORY: I REQUIRED PPE: A AS NEEDED PPE:

PURPOSE: To outline nursing methodology in performing the sterile speculum exam and collecting lab specimens on perinatal patients.

WHO MAY PERFORM

THIS PROCEDURE:

The exam may be performed by a RN trained in sterile speculum exam under physician's orders.

SUPPORTIVE DATA:

Sterile speculum exam may be indicated for the following:

- A. View cervical changes when manual vaginal examination is otherwise contraindicated, (i.e., preterm PROM).
- B. Assessment of membrane status – confirm rupture of membranes; pooling, ferning.
- C. Collection of lab specimens – fetal fibronectin (fFN), cultures, aspirating amniotic fluid from vaginal pool.

Although the vagina is not a sterile environment, the use of sterile technique will prevent introducing any foreign contaminants in the case of ROM or if cultures are required. **DO NOT** use any lubricants for insertion of speculum. If lubrication is necessary, use only NS or sterile H₂O. Lubricants will alter some test results.

***CAUTION:**

If at **ANY** time during the speculum exam, membranes are visualized hourglassing into the vagina, vaginal vault fills up with blood or the cervix appears abnormal, immediately discontinue the speculum exam to prevent inadvertent rupture of the membrane, and notify the physician.

Procedure for Performing Sterile Spec Exam (con't)

EQUIPMENT:

- Speculum: May use a Graves with wide flat blades or a Pederson's with straight narrow blades. Choose the appropriate size for your patient:
 - Large for women with increased weight, higher parity and/or lax perineal/vaginal tone.
 - Medium for women who are primigravidas or of thin, slight build.
 - Small for very young women.
- Light Source: Flashlight (to be held by an assistant), or freestanding exam light.
- Sterile Swabs
- Specimen Tubes
- Culturettes
- Microscope Slides
- Feeding Tubes (8F)
- 12cc Syringe

Procedure for Performing Sterile Spec Exam (con't)

PROCEDURE

- 1) Ask patient to void prior to exam.
- 2) Assemble all equipment needed for procedure.
- 3) Explain procedure to patient.
- 4) Assist patient in to the lithotomy position.
- 5) Apply sterile gloves.
- 6) Use culturette swab to complete GBS culture, if ordered by physician. **DO NO** use speculum for culture collection.
- 7) Inspect the speculum prior to use. Verify that the handle nut is in closed position and lever nut is loosened to allow blade tips to close.
- 8) Encourage patient to breathe slowly through her mouth in an effort to relax the perineal muscles.
- 9) Using your non-dominant hand, touch the patient's inner thigh, then firmly place one finger on either labia, separating them with a firm lateral and downward motion.

KEY POINTS

- 1) Increases patient comfort and assures complete exam of cervix.
- 3) Converse with patient throughout the exam so she is aware of what you are doing and when she will be touched.
- 4) Assure patient privacy.
- 6) Swab the lower vagina (vaginal introitus), followed by the rectum (i.e., insert swab through the anal sphincter). Place swab in nonnutritive transport medium and send to lab. Label for GBS culture and if susceptibility tests for clindamycin and erythromycin should be performed.
- 7) Warm speculum in sterile gloved hands.
- 8) Encourage patient to let her hips relax into the table/bed.
- 9) Tell patient exam is beginning and where she will feel your touch.



Procedure for Performing Sterile Spec Exam (con't)

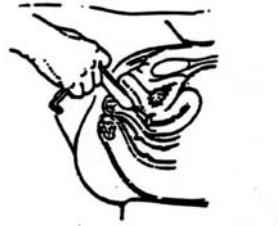
PROCEDURE

10) Apply downward pressure on the perineum with finger, using the finger as a guide. Withdraw finger as speculum enters vagina. Insert the speculum holding it closed with the dominant hand by holding the index finger over the blade base.

11) Rotate the speculum so that the blades are nearly vertical and the handle is pointed to 4 o'clock or 8 o'clock.



12) Direct the tip of the speculum to posterior part of the vaginal introitus.



13) Maintaining constant pressure of the lower blade against the vaginal wall, insert the speculum at a 40-degree angle.

13) This will avoid possibly painful pressure on the urethra.

14) As speculum is introduced an inch or so, rotate the speculum back to midline so that the blades are in a transverse position and handles point downward. Remove hand from labia majora.

Procedure for Performing Sterile Spec Exam (con't)

PROCEDURE

KEY POINTS

15) Advance the speculum to full depth, maintaining uniform pressure against the posterior vaginal wall.



16) Open the blade tips by depressing the speculum lever. If the cervix is visualized, secure the blade tips open by tightening the lever nut with your non-dominant hand.

A.



B.



C.



17) If the cervix is not visualized, redirect the speculum more posteriorly and deeply. Again open the blade tips.



Procedure for Performing Sterile Spec Exam (con't)

PROCEDURE

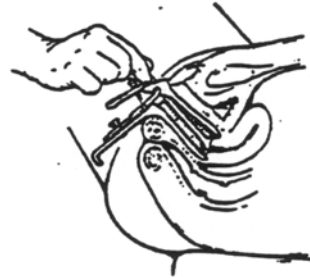
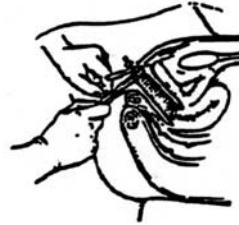
18) If the cervix is visualized, but partially obscured by lax vaginal walls, secure the blade tips open. Then open up the blade bases by unlocking the handle nut. Push up on the Y-shaped piece, then secure the blade bases open by tightening the handle nut with your non-dominant hand.

19) Complete assessment for ruptured membranes, if indicated.

- a) Observe for fluid leaking from the cervical os. Ask patient to cough.
- b) Observe for vaginal pooling.
- c) Swab fluid and gently smear onto slide for ferning test.

KEY POINTS

18) If still unable to visualize cervix, to consider trying a larger speculum.



Procedure for Performing Sterile Spec Exam (con't)

PROCEDURE

20) Collect amniotic fluid for fetal lung maturity tests, if ordered by physician.

- a) Aspirate amniotic fluid from vaginal pool with a feeding tube and 12cc syringe. Specimen must specify that it is from vaginal pool as opposed to amniocentesis.

21) Obtain fetal fibronectin (fFN) specimen, if ordered by physician.

- a) Visualize the posterior vaginal fornix before inserting the Dacron swab provided in collection kit. When the cervix is not visualized, specimen can be obtained from the posterior side walls of the vagina, which are within the visual field.

- b) Lightly rotate Dacron swab across the posterior vaginal fornix for 10 seconds. Remove and insert into plastic buffer tube, break the shaft even with the tube top, align shaft with hole inside cap and push down tightly to seal.

KEY POINTS

- a) If fluid amount is insufficient, ask patient to cough.

- a) Visualization is important to avoid contamination with mucus and/or blood. Use only the Dacron swab provided in the kit. Any other type of swab will invalidate results.

- b) Correct collection of specimen is necessary to assure accurate immunoassay. fFN binds to glass and cotton, so must use Dacron swab and plastic tube. It is very important to make sure tube is completely closed.

Procedure for Performing Sterile Spec Exam (con't)

PROCEDURE

- c) Complete lab documentation and transport to lab in a timely manner.
- 22) Obtain any other cultures ordered by physician.
- 23) Withdraw the speculum, first drawing back on the speculum until the cervix is no longer between the blade tips. Close blade bases if open.
- 24) Slowly loosen the lever nut, guiding the closure of the blade tips with the lever handle so that the blade tips do not snap shut.
- 25) Rotate the speculum so the handle is at 4 o'clock or 8 o'clock.
- 26) Maintain constant pressure on the posterior vaginal wall while withdrawing.

KEY POINTS

- c) fFN is a STAT lab test, due to the need to keep the specimen cold and to receive a timely test result.

Procedure for Performing Sterile Spec Exam (con't)

DOCUMENTATION:

Chart that the procedure was explained to the patient and oral consent obtained. Chart that the exam was performed, including times, tests performed, observations of cervix status, fluid noted and characteristics, results of ferning tests after being read by the laboratory or the provider.

References: The Lippincott Manual of Nursing Practice, 7th Edition, 2000

Martin, Jean (2002). Intrapartum Management Modules
(3rd Ed.): A Perinatal Education Program. Williams and Wilkins. New York.

Group B Strep Protocol: Maternal and Newborn

DEFINITION AND PURPOSE:

The CDC and ACOG recommend GBS antibiotic prophylaxis for women who are GBS colonized (vaginal, rectal, or urine) in order to prevent GBS disease of the newborn. Screening cultures are usually done prenatally in the provider's office. If a pregnant woman is admitted to the hospital before the GBS screen has been done and there is a risk of preterm delivery, GBS testing should be done ASAP and antibiotics begun, if appropriate.

POLICY:

Vaginal and rectal GBS screening cultures will be done at 35-37 weeks gestation for **ALL** pregnant women following the ACOG/CDC guidelines. Results are to be sent to L&D units to be attached to the prenatals.

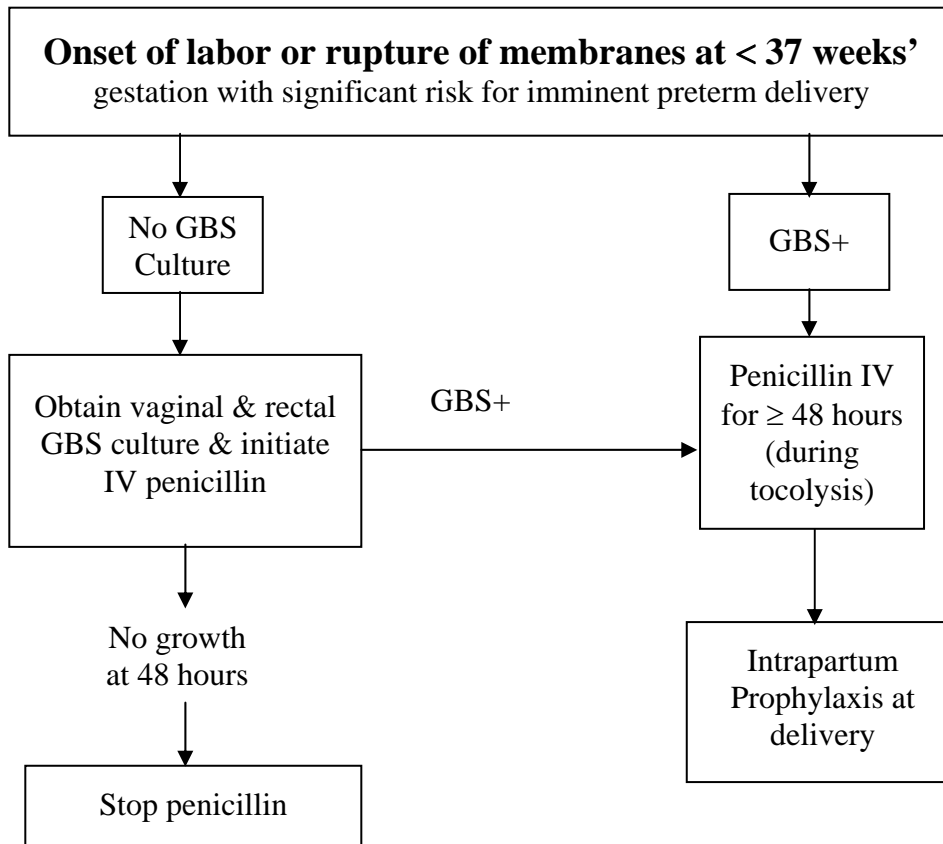
For women presenting with threatened preterm delivery ≤ 35 weeks, a GBS screening culture will be obtained upon inpatient admission.

PROTOCOL:

1. Upon the patient's arrival in obstetrics, review prenatal record for GBS history and culture results. If no record of a GBS screen, notify provider for results or culture order.
2. Intrapartum prophylaxis indicated if:
 - a. Previous infant with invasive GBS disease
 - b. GBS bacteriuria during current pregnancy
 - c. Positive GBS screening culture during current pregnancy (unless planned cesarean delivery in the absence of labor or amniotic membrane rupture).
 - d. Unknown GBS status (culture not done, incomplete, or results unknown) and any of the following:
 - i. Delivery at < 37 weeks gestation
 - ii. Amniotic membrane rupture ≥ 18 hours
 - iii. Intrapartum temperature $\geq 100.4^{\circ} \text{F}$ ($\geq 38.0^{\circ} \text{C}$)
3. Intrapartum prophylaxis not indicated if:
 - a. Planned cesarean delivery performed in the absence of labor or membrane rupture (regardless of maternal GBS culture status).
 - b. Negative vaginal and rectal GBS screening culture during current pregnancy, regardless of intrapartum risk factors. However, clinical evidence of chorioamnionitis should be treated accordingly.

Group B Strep Protocol: Maternal and Newborn (con't)

4. Algorithm for GBS prophylaxis for women with threatened preterm delivery.



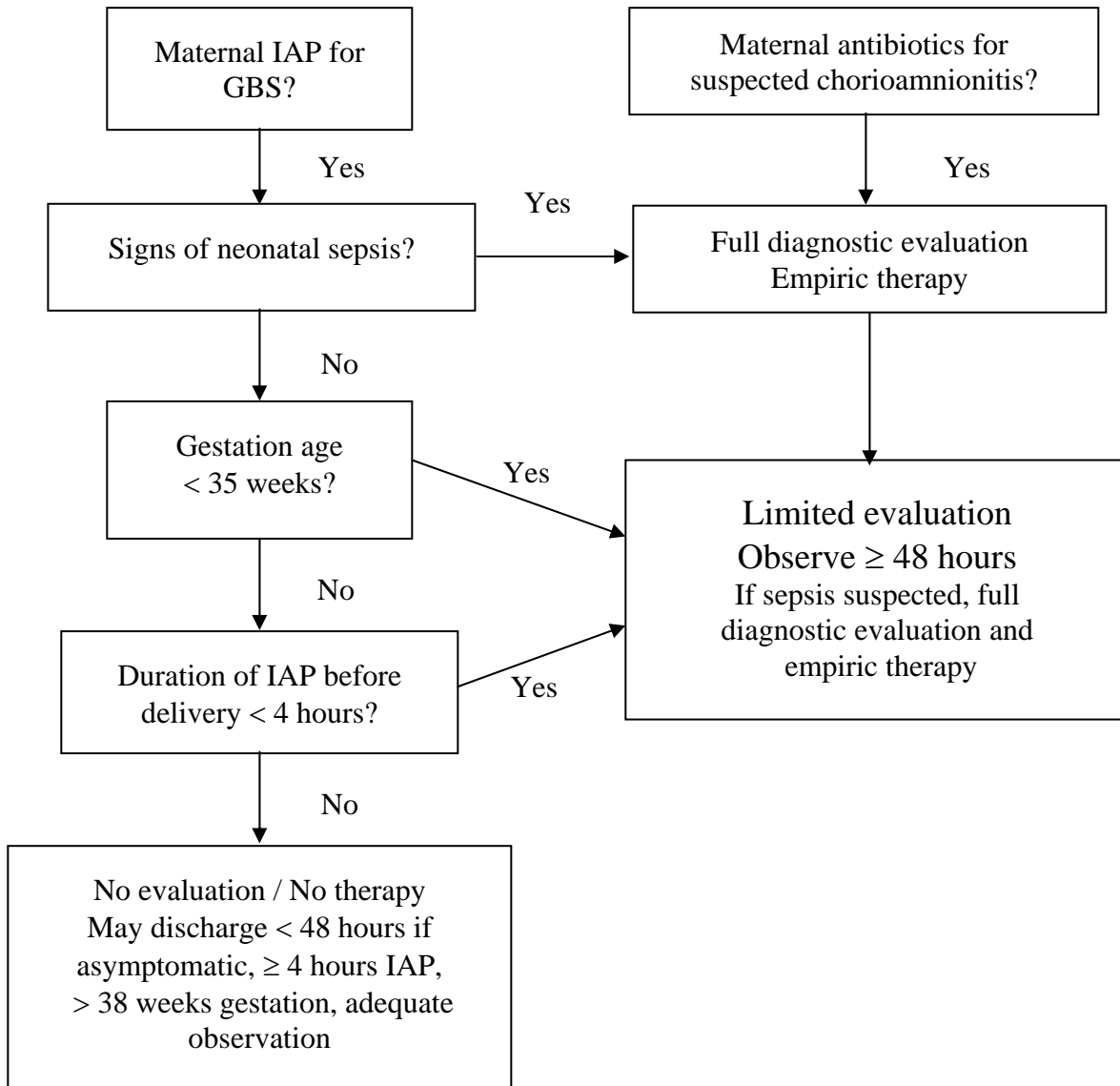
5. Recommended regimens for antimicrobial prophylaxis for perinatal GBS disease prevention:
- Recommended: Penicillin G, 5 million units IV initial dose, then 2.5 million units IV every 4 hours until delivery.
 - Alternative: Ampicillin, 2 gm. IV initial dose, then 1 gm. IV every 4 hours until delivery.
 - If penicillin allergic:
 - Patients not at high risk for anaphylaxis: Cefazolin, 2 gm. IV initial dose, then 1 gm. IV every 8 hours until delivery
 - Patients at high risk for anaphylaxis:
 - GBS susceptible to Clindamycin and Erythromycin
 - Clindamycin, 900 mg IV every 8 hours until delivery

OR

 - Erythromycin, 500 mg IV every 6 hours until delivery
 - GBS resistant to Clindamycin or Erythromycin or susceptibility unknown:
 - Vancomycin, 1 gm. IV every 12 hours until delivery.

Group B Strep Protocol: Maternal and Newborn (con't)

6. Algorithm for management of a newborn whose mother received intrapartum antimicrobial agents for prevention of early-onset Group B Streptococcal disease or suspected chorioamnionitis.



7. 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.

REFERENCES

- Centers for Disease Control and Prevention: Prevention of Perinatal Group B Streptococcal Disease (revised guidelines). MMWR Wkly, August 16, 2002.
- ACOG Committee opinion #279, December, 2002. Prevention of Early-Onset Group B Streptococcal Disease in Newborns.