Placenta

Study Group Module

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Placenta

National Midwifery Institute, Inc.
Study Group Coursework
Syllabus

Description:

This module explores the function and role of the placenta in pregnancy including variations and the implications in midwifery practice. It includes recommended reading materials in print and online, and asks students to complete short answer questions for assessment, long answer questions for deeper reflection, and learning activities/projects to deepen your hands-on direct application of key concepts.

Learning Objectives:

- Review the growth and development of the placenta in pregnancy.
- Review the normal physical characteristics and variations of the placenta and umbilical cord.
- Identify hydatidiform mole.
- Consider the position of the placental site and its effect on fetal position.
- Identify the normal physiologic function of the placenta as an endocrine, nutritive, respiratory, and excretory organ.
- Review the screening and risk factors and treatment for Rh negative mothers, Rh sensitization and ABO incompatibility.
- Identify viruses capable of crossing the placenta.
- Identify the risks and symptoms of placental insufficiency.
- Identify the current thought regarding post-dates and placental function.
- Identify the symptoms and make a plan of action for placental abruption and placenta previa.
- Identify the signs of placenta accreta and review your plan of action for its management.
- Review Third Stage module.
- Review the steps of inspecting the placenta after birth and checking for complete membranes and cotyledons.
- Identify signs of disease that can be observed in the placenta.

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- Identify developmental variations of the placenta including velamentous insertion, vasa previa, cysts, infarcts, extrachorial placentas, battledore and marginal cord insertions.
  Understand the possible implications of two vessels in the cord

Learning Activities:

- Research and read appropriate study sources, seeking out additional study sources where needed
- Complete short answer questions in attached module document for assessment
- Complete long answer questions for deeper reflection in attached module document for assessment
- Complete learning activities listed in attached module document for assessment
  - Draft practice guidelines for suspected placental abruption, placenta previa, and placental insufficiency
- Submit work to Study Group Course Coordinator
- Reflect on feedback from Study Group Course Coordinator and re-submit work as needed

Study Sources (print):

Use keywords from the Learning Objectives to search the table of contents and index of the required reading listed below. Read those pages listed, and read the chapter in which they are found. Establish a context for the information so that you understand how other topics are related. In addition, flip through each text to familiarize yourself with the content of chapters. As you work through Study Group modules, you will eventually read each text in its entirety.

Required Reading (print):

- Holistic Midwifery, Vol. I, Frye
- Holistic Midwifery, Vol II, Frye
- Varney's Midwifery, 6th edition
- Myles Textbook for Midwives, 17th edition
- Birth Emergency Skills Training, Gruenberg
- Physical Assessment of the Newborn: A Comprehensive Approach to the Art of Physical Examination, Tappero, Honeyfield
- Human Labor and Birth, Oxorn and Foote, 6th edition

Optional Reading:

- The Placenta: A Guide to Examination, Edmonds
- Placenta, The Gift of Life by, Enning
- Placenta: The Forgotten Chakra, Lim
- Human Anatomy and Physiology, Marieb

Study Sources (online):

See NMI website Placenta module web resources section for current online study

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sources for this module.

Related Modules:

- Third Stage of Labor
- Embryology and Fetal Development
- Fetal/Newborn Circulation
- Uterine Size and EDD Discrepancies
- Substance Use and Abuse
- Jaundice
- Nutrition
- Hemorrhage
- Hypertension

Submitting Module for Assessment:
Study Group modules are accepted electronically in PDF format *only*. We encourage you to submit modules as you complete them throughout each quarter of enrollment.

Please e-mail your completed Study Group module to:
Study Group Course Work Instructor nmistudygroup@nationalmidwiferyinstitute.com

Once your module has been e-mailed to us, you will receive an e-mail confirmation that we have received it. Study Group modules are reviewed and returned in digital format as PDF documents. Modules can take up to 1 month from submission to be reviewed and returned to you. We will return your module as an e-mail attachment. Each module includes an Evaluation Sheet at the end of the pdf. The module's page on the student portal also includes a link to a fillable online module evaluation sheet. Please take the time to fill out the module evaluation sheet and return it to us for each module, it helps us to improve our course work.

Please follow these formatting guidelines when submitting modules:

- Your first initial and last name in title of PDF, along with name of module. Example: "ERyanFirstStage.pdf"
- Title of module on the document's front page
- Your name on the document's front page
- Provide the text of each question, followed by a blank line and then your thoughtful answer (without the question, you have commentary without context)
- Blank line between the answer for a question and the next question: question, blank line, answer, blank line, question, blank line, answer…
- Please leave margin space for our comments!
- Don't use script or cursive writing style text
- Font size not smaller than 12
- Credit sources of direct quotes

Completion Requirements and Feedback:

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In order to complete this module for graduation purposes from National Midwifery Institute you must review all resources, complete the attached short answer questions for assessment, long answer questions for deeper reflection, and learning activities/projects, and submit them as detailed above. Upon return to you, your coursework may have feedback or ask for additional information or exploration on certain topics. Your work will be evaluated in the following Rubric (pasted below). You must achieve a minimum score of **7.5** in order to move on to your next module, though we encourage all students to strive for a **10.**

	Level 1 (0 Points) Not Adequate	**Level 2 (1 Point) Developing Adequacy**	**Level 3 (1.5 points) Meets Basic Expectations**	**Level 3 (2 points) Exceeds Expectations**	**Student Score**
Completion of module prompts and elements	-Module not completed	-Major Elements of module are missing	-All aspects of module elements present, with some minor questions unanswered or missing	-All aspects of module elements present and answered completely	
Demonstrates Comprehension of module content and concepts	- Lack of comprehension	- Responses are unclear and do not reflect basic comprehension of module concepts	- Responses are clear and reflect basic comprehension of module content and concepts	- Responses are clear, well written, and reflect in-depth comprehension of module content and concepts. Added subpoints and additional reflections demonstrate a deeper knowledge and curiosity.	
Analysis	- Key terms not defined	-Inaccurate definitions of key items -Limited connections made between evidence, subtopics and clinical experience	-Accurate definitions of key items -Connections made between evidence, subtopics and clinical experience -Incorporation of original ideas and incorporates some clinical experience in responses where possible	- Accurate definitions of key items -Strong connections made between evidence, subtopics and clinical experience	

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Evidence	- No research evidence used	-Research not used -Research not clearly connected to questions asked in module	-Research is present but limited -Research presented is weak or not relevant to communities served by midwives	-Research is abundant -Research is compelling and relevant to communities served by midwives	
Engagement with Learning Resources	-Evident study sources were not utilized	-Evident study sources were partially utilized	-Evident that study sources were fully utilized	-Evident that study sources were fully utilized and independent research was undertaken -Full incorporation of original ideas, personal analysis and incorporates relevant clinical experience in all areas possible	

Skills

Following are Skills Logs which meet MEAC and NARM requirements for assessment of clinical readiness for entry-level practice upon graduation. Review the skills in each of the skills logs and consider how they each relate to the content of this module. If you are currently working with a preceptor, take this opportunity to focus on these areas. During Supervised Primary Care you will formally evaluate these skills together using the NMI Complete Skills Logs: Prenatal Skills Log, Labor & Birth Skills Log, Newborn Exam Skills Log, Postpartum Skills Log, and the Additional Skills Log. To Download the Complete Skills Logs go to the Apprenticeship Page on the Student Portal.

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Study Group Coursework
Module Submission Attestation

All students must complete **one attestation form along with each module submission**. This reminds students of submission guidelines and expectations. It is also a MEAC requirement. Please put your name, read the fine print, and check each box as indicated. Thank you!

First and Last Name:

Email:

I have submitted my module by email (required)

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I have emailed my module to nmistudygroup@nationalmidwiferyinstitute.com. I have made sure I followed submission and formatting instructions carefully, as outlined in the module syllabus. I have submitted a .pdf document, and all project attachments as requested.

☐ **I have read the fine print. I have emailed my module.**

The work I have submitted is my original work (required)

I have not plagiarized my work, rather, my work is in my own words and reflects my own unique ideas. When sourcing ideas form others, I have quoted, cited, and/or attributed their ideas properly. If there is any question about the originality of my work, a Study Group Coursework Coordinator will contact me.

☐ **I have read the fine print. I certify that I have submitted original work.**

I have submitted a module feedback form (required)

I understand I must submit at least ten module feedback forms throughout my time completing Study Group Coursework. These module feedback forms solicit student feedback in order to improve modules and keep them relevant and up-to-date for optimum student education.

☐ **Yes, I submitted a module feedback form for this module**

☐ **No, I have not chosen to submit a module feedback form for this module.**

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Study Group Coursework
Short Answer Questions

Short Answer Questions:

1. Describe the embryonic formation of the placenta.

2. Describe the transfer of oxygen and carbon dioxide between maternal and fetal circulatory systems.

3. Name four hormones secreted by the placenta, and briefly describe what these hormones are responsible for doing.

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4. Name the two membrane layers that are the “bag of waters.” And which is closest to baby?

5. How much blood does a mature placenta contain at any given time?

6. What is Wharton’s jelly and what purpose does it serve? How does this substance change at birth?

7. Name the two types of vessels, the number of each, and the direction of blood flow between placenta and baby.

8. Generally speaking, how long are most umbilical cords?

9. Define MSAFP. How may the MSAFP be affected by the placenta?

10. Where is the placenta most likely to implant?

11. Describe the relationship between pre-eclampsia and placental implantation?

12. Explain how a placenta may be seen by ultrasound to be in the lower uterine segment (possibly even threatening a partial placenta previa), but then in follow-up ultrasounds be shown to have ‘migrated’ upward?

13. Describe how the placenta is evaluated by ultrasound

14. How may Gestational Diabetes specifically impact placenta development and function?

15. Describe how you inspect a placenta after delivery.

16. What does it mean if a placenta is “Shultz” or “Duncan”?

17. Describe both the fetal and the maternal sides of the placenta, including variations of normal that you might see.

18. What disease processes may be observed in the condition of the placenta?

19. Describe the various umbilical cord insertions. (see slideshow on student portal)

20. What can variations in the number of vessels in the umbilical cord indicate?

21. Discuss hydatidiform mole (molar pregnancy).
    a. describe a hydatidiform mole or molar pregnancy and its origin.
    b. what are the symptoms of a hydatidiform mole?
    c. what is the typical treatment for hydatidiform mole and the long-term follow-up associated?
    d. what is choriocarcinoma? How common is it?

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22. How does hypertension affect placental circulation?

23. List ten substances that are able to cross the placenta to the fetus.

24. Which common viruses may be able to cross the placenta?

25. How much amniotic fluid is there at the peak volume?

26. What is the current thought regarding the function of the placenta post-dates? Is the placenta a “timed organ”?

27. Why might a placenta be tinged green?

28. Your client gave birth 20 minutes ago, the cord has stopped pulsing now and the parent’s wish to cut it so that the baby can access the breast more easily. You clamp and the parent cuts the cord. The baby’s cord is securely clamped, but inadvertently the cord clamp on the placenta’s cord comes unclamped, allowing a spurt of blood from the end of the cord. Whose blood is this?

29. Briefly but clearly describe, as you would if your client asked you, the mechanism that allows oxygen and waste gases to be exchanged between the mother and fetus.

30. Describe 3 types of accreta and how they are discovered at a home birth.

31. Describe the correlation between previous scar tissue an abnormal placenta embedding.

32. What are the risk factors for placental abruption?

33. What are the symptoms of an abrupted placenta?

34. Who is at increased risk of placenta previa?

35. How may a low lying placenta affect fetal position?

36. How might you, as a midwife, discover a placenta previa?

37. If you suspected a placenta previa, would you do a vaginal exam? How could you be sure that it was or was not a previa?

38. What would indicate a possible vasa previa?

39. How might placental insufficiency affect the baby?

40. Describe calcifications on a placenta, and give a theory about what contributes to them.

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41. Describe the possible placental formations in a twin pregnancy.

42. What becomes of the umbilical arteries and vein after birth?

43. What are your clients doing with their placentas after birth? What storage instructions are you giving them?

44. What is a “Lotus Birth”? Why might people choose this? Do you have experience with supporting a lotus birth?

45. What is the current research and thoughts on placental consumption postpartum?

Continued…..

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Study Group Coursework
Long Answer Questions for Deeper Reflection

Questions Requiring Longer, More Thoughtful Answers:
(number continued from previous section).

46. Describe particular considerations with placenta and maternal/fetal circulation for Rh negative clients.

47. Describe what types of events might cause a crossing of blood/circulation between your client and their baby and what is the recommended treatment following these events.

48. Describe developmental anomalies of the placenta, including cysts, infarcts, and extrachorial placentas.

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Projects/Learning Activities

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Projects(send completed projects with the rest of your course work for this module)
(number continued from previous section).

49. Complete the attached Practice Guidelines worksheets. These worksheets will serve as the basis for your professional Clinical Practice Guidelines you will draft before graduation. Fill them out as if you are a midwife in primary practice, and fill them out in the way *you* plan/want to practice. For additional guidance on Practice Guidelines, see the Practice Guidelines page on the NMI Student Portal.

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Practice Guidelines Worksheet

Practice Guidelines form the blueprint for your rationale and procedures of your future midwifery practice. They should lay out your midwifery management plans for selected topics in enough detail that you can follow, share, and turn to them for guidance - but not too much detail as to be potentially incriminating if you don't follow them to the letter. Your submission here is a first draft, upon which we will provide feedback. You are expected to revise, reformat, and compile all your Practice Guidelines in your final submitted module at NMI: "Charting and Practice Guidelines". This macro Handbook of Practice Guidelines is also required by NARM and many state licensing agencies.

Placental Abnormalities

Placental Abruption, Previa, Insufficiency, and Accreta

Drafted by: *[your name]*	*Date:* *Date of Next Review:* *[typically in 3-5 years]*

Background

Here you write a quick summary that introduces the topic, why you care about it as a midwife, and includes any pertinent definitions that may need to be cited for terms used in your guideline. Statistics of frequency or rarity in practice may also be welcome here. This is typically 1-2 paragraphs.

Risk Factors

-
-
-
-
-

Identifying Placental Abnormalities

Here you write how you, as a midwife, will identify the condition. Include signs and symptoms, diagnostic bloodwork and ultrasound, and anything else you find relevant. This can be paragraphs, or a list.

Placental Abruption	Placenta Previa
Placental Insufficiency	Placenta Accreta

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Midwifery Management

Here you write step by step what you will do when you have confirmed a diagnosis of the condition.

Placental Abruption	Placenta Previa
Placental Insufficiency	Placenta Accreta

Consult & Transfer of Care

Here you write under what conditions you would seek urgent or non-urgent consult or transfer of care with a physician. Be sure to reference relevant midwifery law (if relevant in your area) and write specific procedure for how to facilitate this consult/transfer-of-care.

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