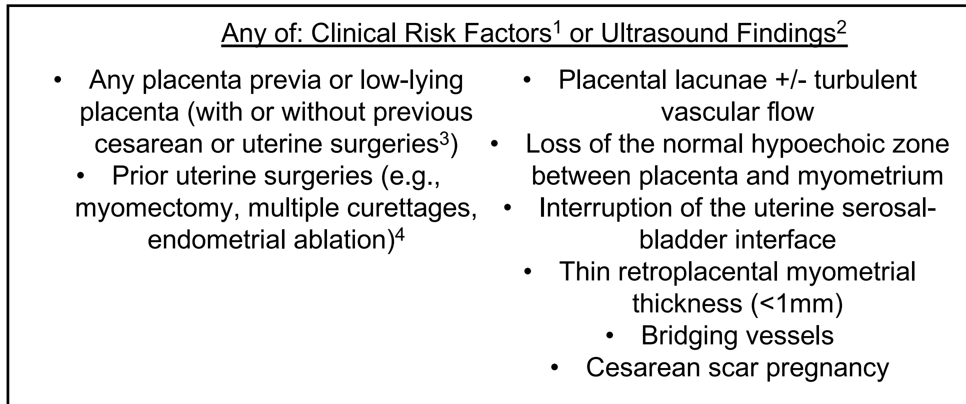
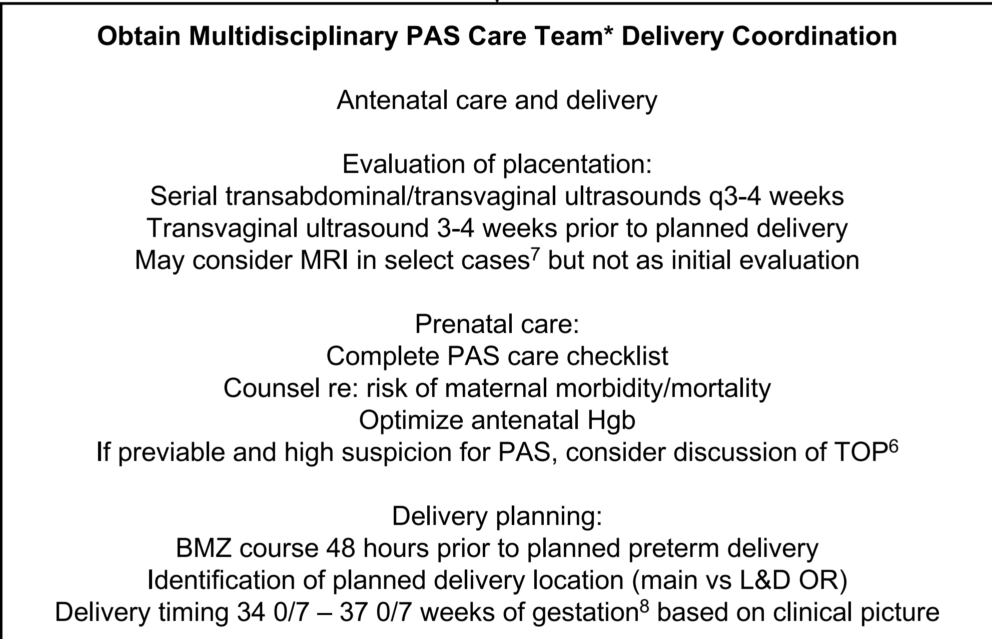
UNC HEALTH

POTENTIAL PLACENTA ACCRETA SPECTRUM (PAS)
Criteria Requiring PAS Team Coordination of Care





*Multidisciplinary PAS Care Team

Maternal-Fetal Medicine	**L&D RN-OB**	†Interventional Radiology
OB Anesthesiology	**Transfusion Medicine**	†Urology
GYN Oncology	Neonatology	†Trauma or General Surgery

†As clinically indicated for select high-risk cases
TOP = Termination of pregnancy

References

1. Obstetric care consensus #7: Placenta accreta spectrum. *Obstet Gynecol* 2018;132(6):1519-1521.
   - *Placenta accreta spectrum (PAS), formerly known as morbidly adherent placenta, refers to the range of pathologic adherence of the placenta, including placenta accreta, increta, and percreta.*
   - *The absence of ultrasound findings does not preclude a diagnosis of PAS. Clinical risk factors remain equally as important as predictors of PAS by ultrasound findings.*
2. Reddy UM, Abuhamad AZ, Levine D, Saade GR. Fetal imaging: Executive Summary of a Joint Eunice Kennedy Shriver National Institute of Child Health and Human Development, Society for Maternal-Fetal Medicine, American Institute of Ultrasound in Medicine, American College of Obstetricians and Gynecologists, American College of Radiology, Society for Pediatric Radiology, and Society of Radiologists in Ultrasound Fetal Imaging Workshop. *J Ultrasound Med* 2014;33:745-757.
   - *Obstetric ultrasound in the second or third trimester is the mainstay of antenatal diagnosis of PAS. Sensitivity and specificity of ultrasound for diagnosis of PAS is ~80-90%, with a PPV of ~65% and a NPV of ~98%.*
3. Silver RM, Landon MB, Rouse DJ, Leveno KJ, Spong CY, Thom EA, et al. for the NICHD Maternal-Fetal Medicine Units Network. Maternal morbidity associated with multiple cesarean deliveries. *Obstet Gynecol* 2006;107(6):1226-1232.
   - *In this study, placenta accreta was present in 15 (0.24%), 49 (0.31%), 36 (0.57%), 31 (2.13%), 6 (2.33%), and 6 (6.74%) women undergoing their first, second, third, fourth, fifth, and sixth or more cesarean deliveries, respectively.*
   - *In women with placenta previa, the risk for placenta accreta was 3%, 11%, 40%, 61%, and 67% for first (primary cesarean), second, third, fourth, and fifth or more repeat cesarean deliveries, respectively.*
4. Baldwin HJ, Patterson JA, Nippita TA, Torvaldsen S, Ibiebele I, Simpson JM, Ford JB. Antecedents of abnormally invasive placenta in primiparous women: Risk associated with gynecologic procedures. *Obstet Gynecol* 2018;131(2):227-233.
   - *In this population-based study, women with a history of prior invasive gynecologic procedures were more likely to develop PAS, and the risk increased with increasing number of prior procedures.*
5. Shamshirsaz AA, Fox KA, Salmanian B, Diaz-Arrastia CR, Lee W, Baker BW, et al. Maternal morbidity in patients with morbidly adherent placenta treated with and without a standardized multidisciplinary approach. *Am J Obstet Gynecol* 2015;212:218.e1–9.
   - *Maternal outcomes in cases of suspected PAS are optimized when delivery occurs at a level III/IV maternal care facility before the onset of labor or bleeding and with avoidance of placental disruption.*
6. Second-trimester abortion. Practice Bulletin No. 135. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2013;121:1394–406.
   - *Consider discussion of pregnancy termination in cases of PAS with high index of suspicion given the significant risk of maternal morbidity and mortality, although there are currently no data to support the magnitude of risk reduction, if any.*
7. Einerson BD, Rodriguez CE, Kennedy AM, Woodward PJ, Donnelly MA, Silver RM. Magnetic resonance imaging is often misleading when used as an adjunct to ultrasound in the management of placenta accreta spectrum disorders. *Am J Obstet Gynecol* 2018;218:618.e1–7.
   - *It is unclear whether MRI improves diagnosis of PAS beyond what is achieved by ultrasound alone. In this study of 78 women with suspected PAS, MRI confirmed an incorrect diagnosis or incorrectly changed a diagnosis based on ultrasound in 38% of cases.*
8. Robinson BK, Grobman WA. Effectiveness of timing strategies for delivery of individuals with placenta previa and accreta. *Obstet Gynecol* 2010;116:835–42.
   - *This decision analysis suggested that delivery at 34 weeks of gestation is optimal given the ability of most large centers to handle late preterm infant complications while considering the increased risk of maternal catastrophic bleeding after 36 weeks.*
   - *SMFM recommends planned delivery no later than 35 6/7 weeks of gestation, or earlier as clinically indicated in the setting of persistent bleeding or other complications.*

These algorithms are designed to assist the primary care provider in the clinical management of a variety of problems that occur during pregnancy. They should not be interpreted as a standard of care, but instead represent guidelines for management. Variation in practices should take into account such factors as characteristics of the individual patient, health resources, and regional experience with diagnostic and therapeutic modalities. The algorithms remain the intellectual property of the University of North Carolina at Chapel Hill School of Medicine. They cannot be reproduced in whole or in part without the expressed written permission of the school.
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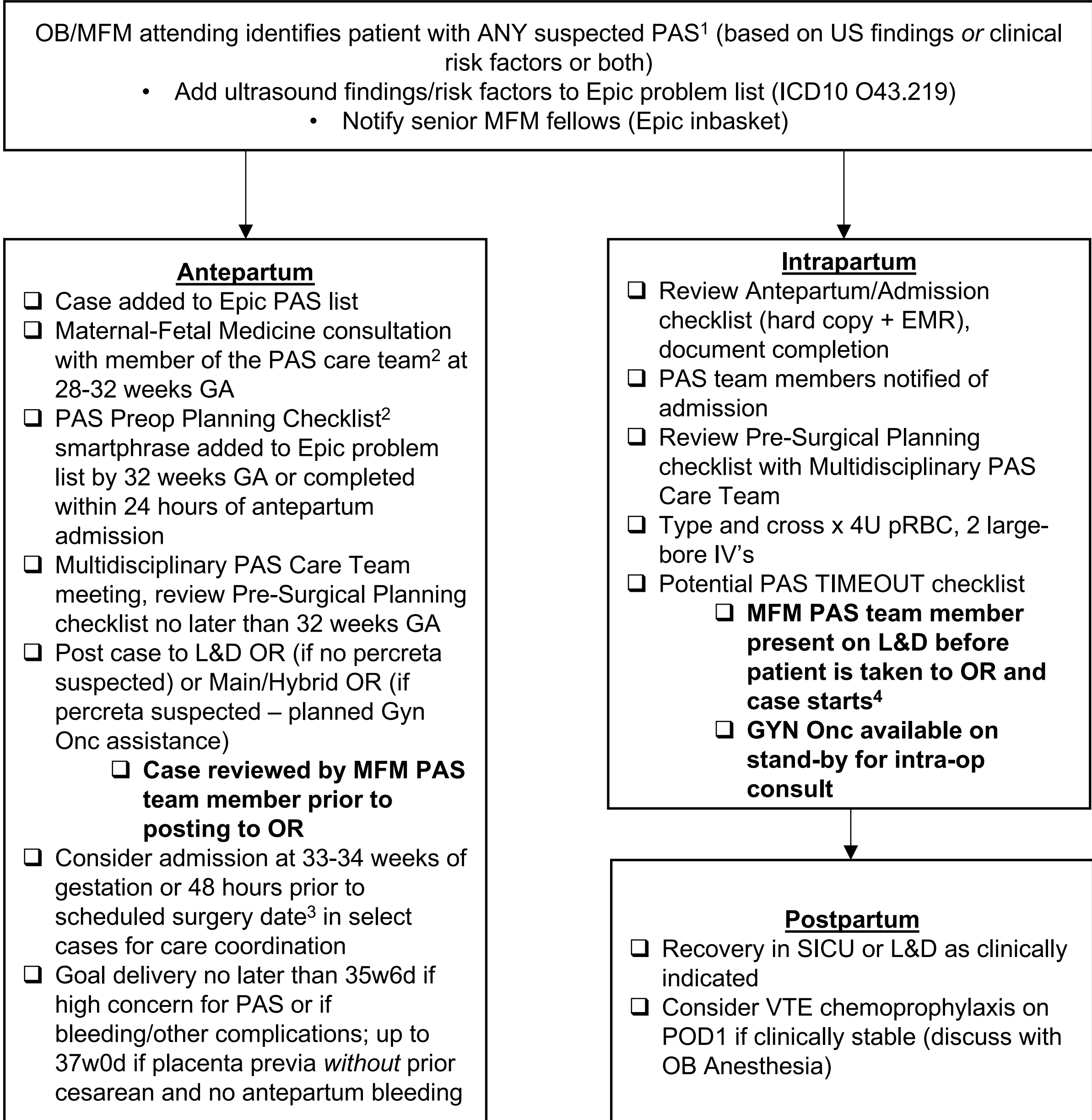
UNC Pre-Delivery Guideline for Potential Placenta Accreta Spectrum (PAS)



Multidisciplinary PAS Care Team

Maternal-Fetal Medicine	**L&D RN-OB (CN-III/IV)**	†Interventional Radiology
OB Anesthesiology	**Transfusion Medicine**	[4]Urology
GYN Oncology	**Neonatology**	†Trauma or General Surgery

[1]Reference external PAS MomBaby guideline for ultrasound findings and clinical risk factors
[2]PAS preop planning Epic smartphrase: **.MFMPASPREOP**
[3]As clinically indicated for select high-risk cases
[4]Unless emergent case where PAS team member or representative has been contacted and is in transit to OR

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POTENTIAL PLACENTA ACCRETA SPECTRUM (PAS)
Antepartum/Admission Checklist*

PAS preop planning Epic smartphrase: **.MFMPASPREOP**

☐ Multidisciplinary PAS care team meeting 1-2 weeks prior to scheduled case or upon admission to Antepartum service

☐ Admission gestational age: ______________

☐ Planned delivery gestational age/date: ___________________

☐ EDD (Confirmed): ______________________

☐ Preoperative consent(s) signed on (date): __________________________________

Example: "Cesarean hysterectomy, possible bilateral salpingectomy, cystoscopy, other procedures as clinically indicated"

☐ Desire for permanent sterilization (If Hysterectomy Not Performed): Yes ___ No ___

  ☐ If Yes, BTL consent signed on (date) _______________

☐ Consents to transfusion of blood products: ☐ Yes ☐ No

☐ Contraindication(s) to uterotonics: ____

☐ Fetal concerns: ____

☐ Antenatal corticosteroids given: ☐ Yes ☐ No Date: ____________

☐ Maternal comorbidities:
____

☐ Planned location of surgery: ☐ Main OR (☐ Hybrid/IR capability?) ☐ L&D

☐ OB Anesthesia consultation – intended type of anesthesia documented

☐ Transfusion medicine/Blood bank aware

☐ Perfusionist (cell saver) notified

☐ GYN Oncology curbside vs formal consultation (as clinically indicated)

☐ Interventional Radiology consultation and planned stents day of surgery (as clinically indicated)

*Modified from the "SMFM preoperative planning form for suspected morbidly adherent placenta" - available online.
†Day of surgery
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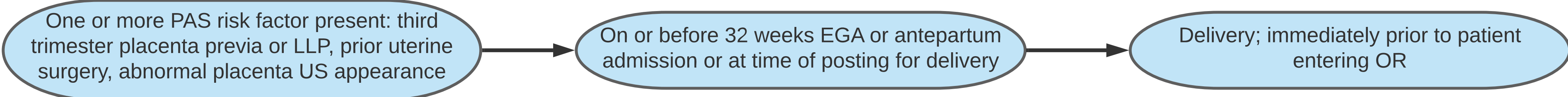
Placenta Accreta Spectrum Checklist: UNC Placenta Accreta Team



Targeted placental ultrasound completed (see US Best Practices Guidelines)?
- ☐ Yes
- ☐ No

US markers of PAS?
- ☐ Loss of echolucent line
- ☐ Lacunae present
- ☐ Discontinuous 'bladder line'
- ☐ Increased color Doppler vascularity
- ☐ Bridging vessels
- ☐ None

PAS suspected - risk greater than baseline previa (> 1%)?
- ☐ Yes
- ☐ No

PAS team consult arranged? Senior UNC MFM Fellow contacted to coordinate care?
- ☐ Yes
- ☐ No

Reviewed imaging with referring provider as indicated?
- ☐ Yes
- ☐ No

Initiated iron therapy/prevention of anemia?
- ☐ Yes
- ☐ No

Serial US follow up scheduled?
- ☐ Yes
- ☐ No

PAS delivery team identified?
Obstetrician:
MFM Fellow:
OB anesthesia:
Primary RN:
GYN ONC:
Urology (if indicated):
IR (if indicated):
Vascular Surgery (if indicated):

Location of delivery
- ☐ L&D
- ☐ Main OR

Team meeting completed/scheduled?
- ☐ Yes
- ☐ No

PAS surgical checklist completed?
- ☐ Yes
- ☐ No

Case scheduled?
- ☐ Yes
- ☐ No

OR equipment availability arranged?
- ☐ Yes
- ☐ No

- ☐ Corticosteroids given?
- ☐ Cell saver arranged?
- ☐ POC testing arranged?

- ☐ PAS delivery team/representative present?
- ☐ On call members aware (GYN ONC/IR)?
- ☐ OR checklist completed and present?
- ☐ Baseline labs resulted (CBC, fibrinogen)

Abdominal incision:
- ☐ Vertical
- ☐ Low transverse

- ☐ Low Lithotomy position/Allen leg rests

IV access:
- ☐ Two peripheral 18 g
- ☐ Arterial line
- ☐ Central access

OR equipment in room?
- ☐ Hysterectomy tray/Ligasure
- ☐ Cystoscopy
- ☐ Bookwalter retractor
- ☐ Vascular catheter (as indicated)

Crossmatched blood products in room/transfusion medicine aware:
- ☐ PRBC
- ☐ FFP
- ☐ Cryo

- ☐ Lab set bundles and orders/labels prepared?

Contraindication to uterotonics?
- ☐ No
- ☐ Yes (describe):

- ☐ Preincision antibiotics present?

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POTENTIAL PLACENTA ACCRETA SPECTRUM (PAS) TIMEOUT Checklist*

- ☐ Patient's full name
- ☐ Medical record number
- ☐ Planned surgical case
- ☐ Surgical consent signed
- ☐ Permanent sterilization consent signed/date (if applicable)
- ☐ Gestational age
- ☐ Preop H/H and platelet count
- ☐ Maternal heart rate
- ☐ Last fetal heart rate
- ☐ Blood products in the OR
- ☐ Rapid infusion device available/primed and ready in OR
- ☐ Type of anesthesia (epidural vs CSE vs epidural with plan for transition to GETA)
- ☐ Blood bank notified of procedure
- ☐ Type of IV access (at least 2 large-bore IV's, A-line per OB Anesthesia)
- ☐ NCCC present
- ☐ Betamethasone course administered
- ☐ Bookwalter, hysterectomy/Gyn Onc "major" tray, Ligasure in the OR (opened)
- ☐ GYN Oncology on stand-by (vs present for suspected percreta cases)
- ☐ Ultrasound machine on and available in OR (at surgeon discretion)
- ☐ Foley catheter in
- ☐ SCDs on and pump activated
- ☐ Lithotomy
- ☐ Chlorhexidine skin prep dry
- ☐ Prophylactic antibiotics given
- ☐ Uterotonics and antifibrinolytic (TXA) readily available
- ☐ ICU aware
- ☐ Team introductions
- ☐ Team concerns

*Modified from the "SMFM preoperative planning form for suspected morbidly adherent placenta" - available online.

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