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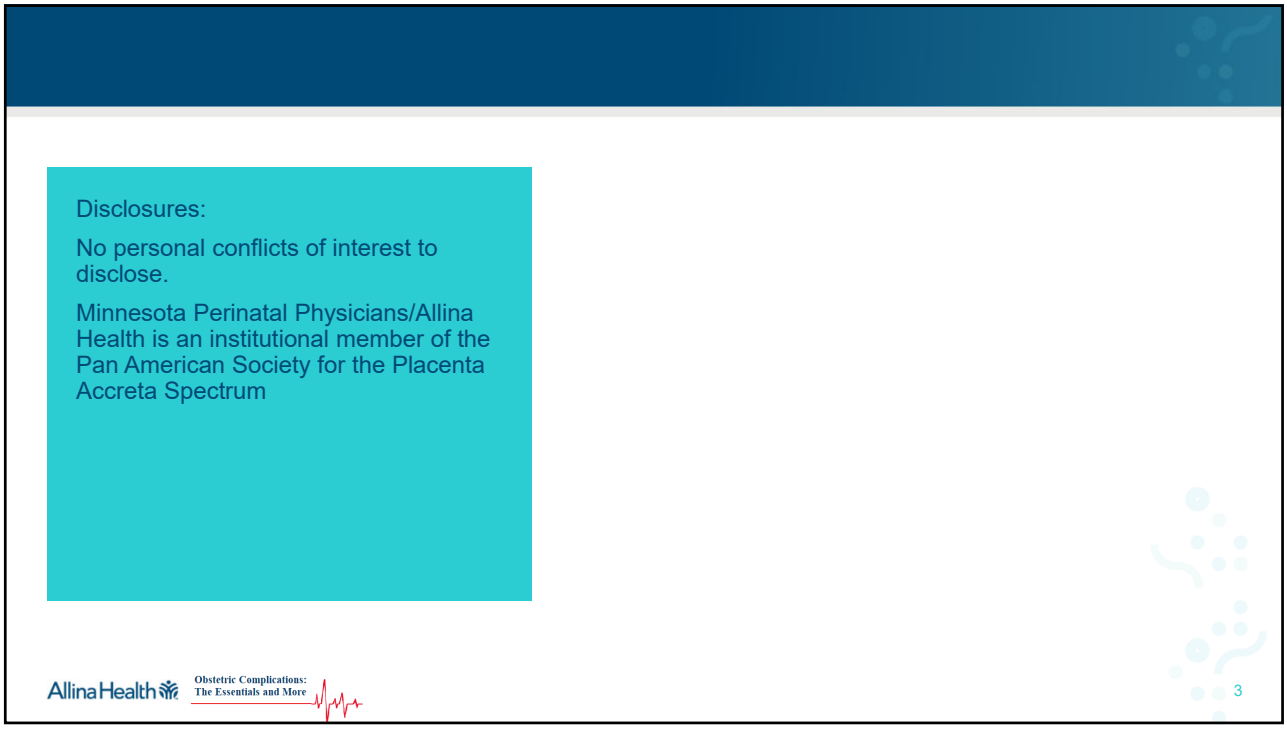

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OBJECTIVES

- Describe the incidence and pathophysiology of Placenta Accreta Spectrum Disorder
- Discuss identification of PASD
- Discuss management of PASD
- Discuss techniques for optimizing surgical care for patients with PASD

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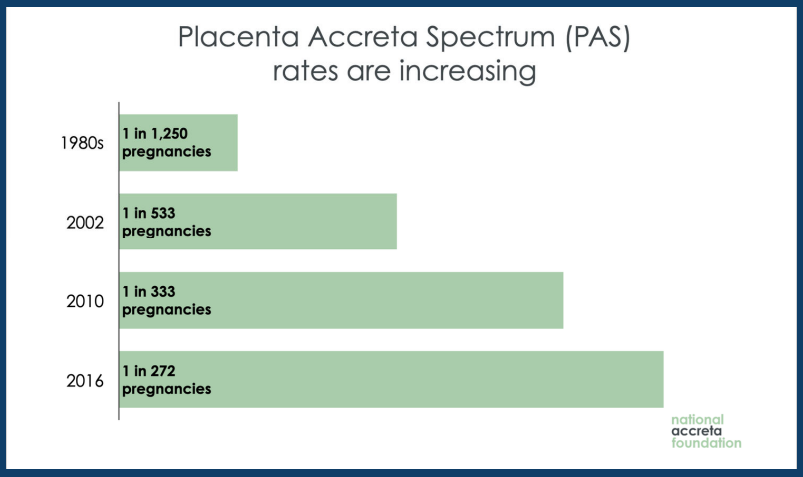
AN INCREASINGLY COMMON PROBLEM



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National Accreta Foundation (preventaccreta.org)

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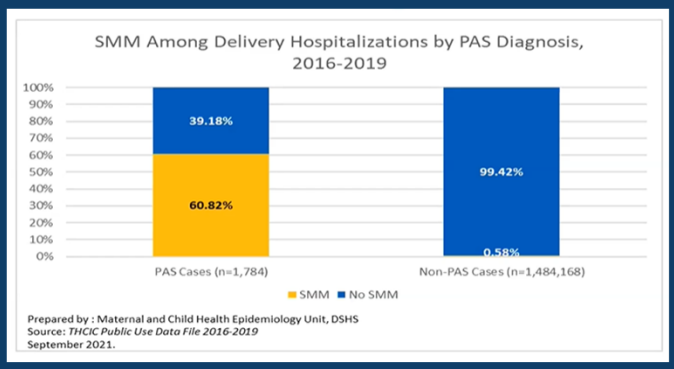
RISK OF SEVERE MORBIDITY AND MORTALITY



PAS diagnosis is associated with a very high rate of severe maternal morbidity and mortality (60.8%)

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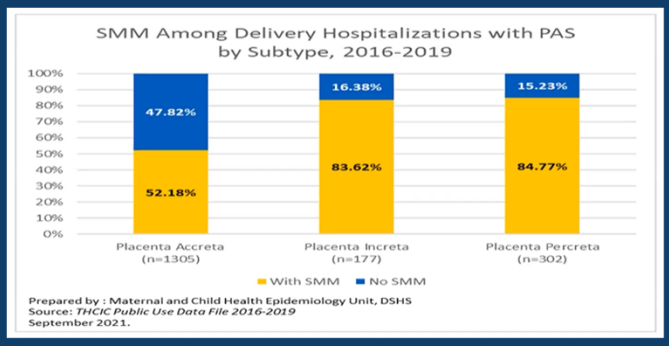

Risks of SMM based on type of PASD increases with depth of invasion.

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PATHOPHYSIOLOGY

Defects/Dehiscence vs Invasion

- View of PAS has changed for model of purely invasion to dehiscence
- Placental implantation in the area of a defect allow for disruption of normal anatomy.
- Invasion also occurs but is more often a secondary feature.
- A small defect can expand into a large problem.

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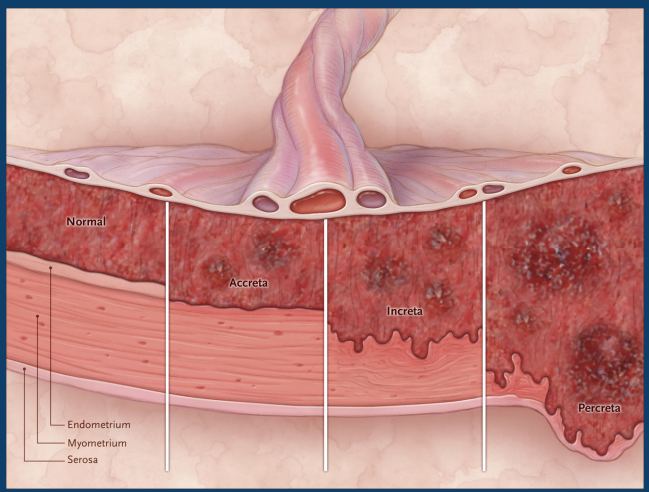
Placenta Accreta, Increta, and Percreta.



- Pathologic staging
- Similar to FIGO staging (allows for clinical staging)
- Accreta (FIGO stage 1) can be difficult to identify before delivery.

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RM Silver, DW Branch. N Engl J Med 2018;378:1529-1536.

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IDENTIFY RISKS

An ounce of prevention…

- Prior Cesarean Delivery
- Other prior uterine surgery (e.g. Myomectomy, endometrial ablation, curettage)
- Placenta previa
- IVF (more with cryopreserved embryos)
- History of retained placenta
- Ashermann's
- Endometriosis/adenomyosis
- AMA
- Multiparity
- Smoking

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IMAGING

- Ultrasound is usually the best tool for identifying PASD
- MRI may be helpful in some situations and some centers, but has high variability.
- Full or partially full bladder is needed.
- Image the entire placenta.
- Use transvaginal ultrasound.
- Referral of patients at increased risk to specialized center is recommended.

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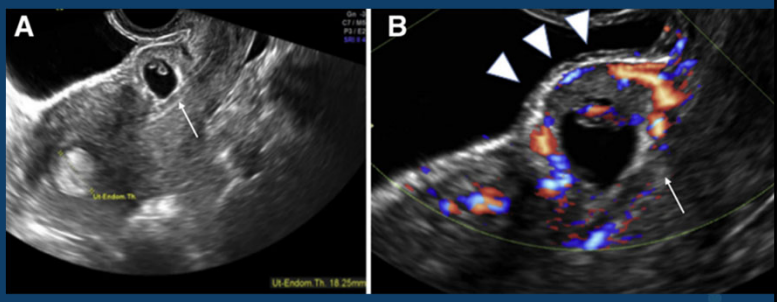
First trimester imaging

TABLE 2
Definitions of placenta accreta spectrum markers in the first trimester of pregnancy

Marker	Definition
Cesarean scar pregnancy	Gestational sac implantation in part or totally within the cesarean scar.
	Gestational sac may have a teardrop or triangular shape.
Low implantation pregnancy	Gestational sac located close to the internal cervical os (up to 8 6/7 weeks of gestation) and/or placental implantation located posterior to a partially filled maternal bladder (up to 13 6/7 weeks of gestation).



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Reference: Special Report of the Society for Maternal-Fetal Medicine Placenta Accreta Spectrum Ultrasound Marker Task Force: Consensus on definition of markers and approach to the ultrasound examination in pregnancies at risk for placenta accreta spectrum. Am J Obstet Gynecol. 2021;224(1):B2-B14.

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Approach to ultrasound examination in the second and third trimesters of pregnancy

Marker	Approaches
Lacunae	Detailed evaluation of the entire placenta in orthogonal planes.
	Lacunae should be evaluated using grayscale and color Doppler imaging.
	Doppler assessment should generally be performed with a low-velocity scale, low wall filters, and high gain to maximize detection of flow[a] (adjusting as needed for body habitus and other clinical factors).
Abnormal uteroplacental interface	Evaluation of the uteroplacental interface is optimized by perpendicular orientation of the transducer to the area of interest with minimal transducer pressure.
	Transvaginal ultrasound is recommended in the setting of an anterior, low-lying placenta or placenta previa.
	Imaging should be performed with a partially filled maternal bladder.
	Optimization of gain settings to help differentiate between placental and myometrial tissues.
	The area of interest should be magnified so that it occupies at least half of the ultrasound image with the focal zone at appropriate depth.
	Myometrial measurement should be made perpendicular to the long axis of the uterus and measured at the thinnest site (commonly along the uterine scar).
Abnormal uterine contour (placental bulge)	Placental tissue distorting the uterine contour resulting in a bulge-like appearance (this is best appreciated in a midsagittal plane of the uterus).
Exophytic mass	Placental tissue visualized beyond the uterine serosa.
Bridging vessel	Doppler assessment of vessels extending from the placenta across the myometrium and beyond the uterine serosa.[a]

[a] Some studies suggest a velocity of >15 cm/s as the threshold for high peak systolic velocity; [b] Bridging vessels need to be differentiated from bladder varicosities, which are not placental in origin and do not increase risk of placenta accreta spectrum.

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Definitions of PAS markers in the second and third trimesters of pregnancy

Marker	Definition
Placental lacunae	Irregular, hypoechoic spaces within the placenta containing vascular flow (which can be seen on grayscale and/or color Doppler imaging).
	The following lacunae findings are associated with high risk of PAS: Multiple (often defined as ≥3) • Large size • Irregular borders • High velocity[a] and/or turbulent flow within
Abnormal uteroplacental interface	Loss of the retroplacental hypoechoic zone between the placenta and myometrium.[b]
	This marker is often located along the posterior bladder wall resulting in partial or complete interruption or irregularities of the uterovesical interface.
	Thinning of the retroplacental myometrium (previously described as myometrial thickness of <1 mm).
Abnormal uterine contour (placental bulge)	Placental tissue distorting the uterine contour resulting in a bulge-like appearance.
Exophytic mass	Placental tissue extruding beyond the uterine serosa.
Bridging vessel	Vessel that extends from the placenta across the myometrium and beyond the uterine serosa.

PAS, placenta accreta spectrum.

[a] Some studies suggest a velocity of >15 cm/s as the threshold for high peak systolic velocity; [b] This space represents the uterine decidua and has been described as the "clear zone."

THIS IS A BUSY SLIDE…

Reference: Special Report of the Society for Maternal-Fetal Medicine Placenta Accreta Spectrum Ultrasound Marker Task Force: Consensus on definition of markers and approach to the ultrasound examination in pregnancies at risk for placenta accreta spectrum. Am J Obstet Gynecol. 2021;224(1):B2-B14.

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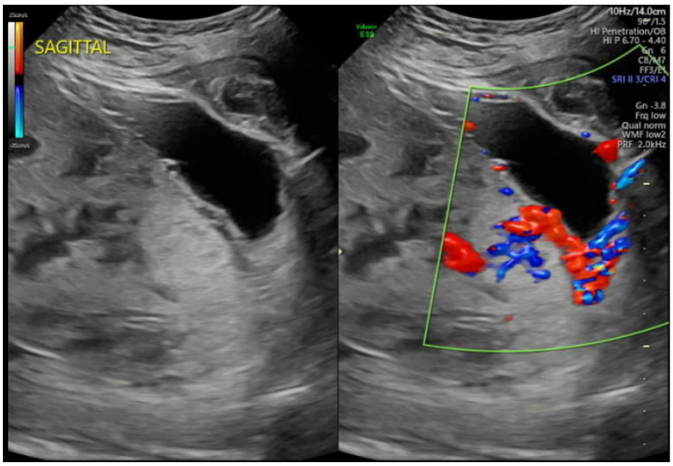

- Lacunae
- Bridging vessels
- Thin myometrium.
- Loss of Hypoechoic zone.
- Abnormal uteroplacental interface

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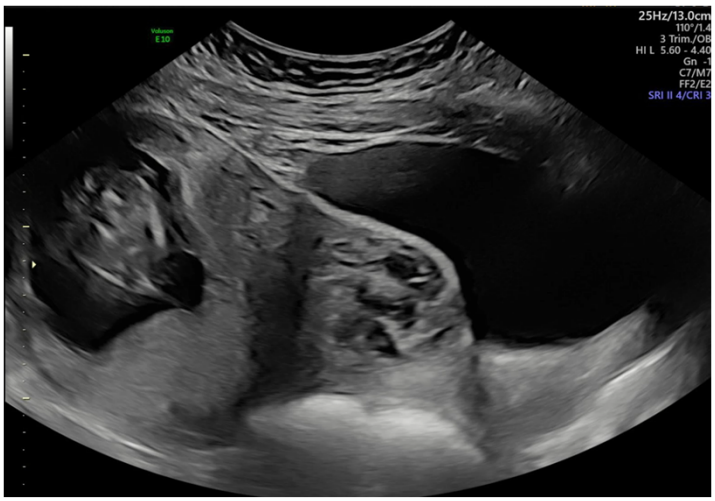

- Abnormal uterine contour/bulge
- Lacunae

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Guidelines for Placenta Accreta Spectrum.*

- Early identification allows for better delivery planning.
- Delivery in a Center of Excellence improves outcomes.

Table 1. Guidelines for Placenta Accreta Spectrum.*

Antepartum

Women with risk factors for placenta accreta spectrum (e.g., placenta previa, previous cesarean delivery, endometrial ablation, or other uterine surgery) should undergo targeted obstetrical ultrasonography in the middle-to-late second trimester to assess for suggestive findings.

Preoperative counseling should include discussion of the risks posed by placenta accreta spectrum, including the potential for massive hemorrhage, complications of surgery, and hysterectomy.

Although planned delivery is desirable, a contingency plan should be in place in case emergency delivery is indicated.

Antenatal glucocorticoids should be administered to the mother (12 mg of betamethasone given intramuscularly at 2 to 7 days before delivery and repeated once 24 hours later) to enhance fetal pulmonary maturity.

Delivery

Delivery should occur in a center with a multidisciplinary team experienced in the care of the condition and a blood bank with the capacity for massive transfusion.

Outcomes are improved with scheduled delivery before the onset of labor or bleeding. In most cases, planned preterm delivery at 34 weeks of gestation appears to best balance maternal and neonatal risks. Amniocentesis to assess fetal pulmonary maturity is not required.

The generally recommended management of placenta accreta spectrum is planned cesarean hysterectomy with a hysterotomy that avoids the placenta, which is left in situ. Individualized, alternative management strategies may be used after appropriate counseling.

In the context of intraoperative hemorrhage, key measures include aggressive volume expansion, transfusion of blood products, and correction of coagulation.

* The guidelines are adapted from recommendations of the Society for Maternal–Fetal Medicine[3] and the American College of Obstetricians and Gynecologists.[10]

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RM Silver, DW Branch. N Engl J Med 2018;378:1529-1536.

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SOMETIMES YOU FIND SOMETHING YOU DIDN'T EXPECT.

Have a plan for managing unexpected situations.

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