

# Society for Maternal-Fetal Medicine Special Statement: Checklists for management of pregnancies complicated by stillbirth

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## Abstract

Stillbirth is one of the most common adverse pregnancy outcomes, occurring in 1 in 160 deliveries in the United States. In an effort to provide a standardized approach to the management and evaluation of stillbirth, the American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine developed an Obstetric Care Consensus published in March 2020, “Management of Stillbirth.” The consensus document describes detailed considerations for the acute medical management of a newly diagnosed stillbirth, including recommended initial evaluation, delivery considerations, and recommendations for postpartum care, as well as information on providing sensitive and compassionate counseling to families. In addition, the consensus document discusses the management of pregnant individuals with a history of prior stillbirth. We present simple checklists for the care of patients with stillbirth designed for site-based adaptation and implementation.

## KEYWORDS

autopsy, checklist, implementation, patient safety, stillbirth

## 1 | INTRODUCTION

Stillbirth is one of the most common adverse pregnancy outcomes, occurring in 1 in 175 deliveries in the United States [1]. Approximately 21,000 stillbirths at  $\geq 20$  weeks of gestation are reported annually [1]. In an effort to provide a standardized approach to the management and evaluation of stillbirth, the American College of Obstetricians and Gynecologists (ACOG) and Society for Maternal-Fetal Medicine (SMFM) developed an Obstetric Care Consensus (OCC) published in March 2020, “Management of Stillbirth” [2].

The length, breadth, and depth of the ACOG–SMFM document may make it difficult for clinicians to distill recommended actions when faced with an acute clinical scenario. The purpose of this document is to provide a condensed version of the OCC for use in routine clinical care. The initial checklist summarizes recommendations regarding evaluation, delivery, and postpartum care for the patient with a newly diagnosed stillbirth (Figures 1 and 2). The second checklist outlines best practices in bereavement care (Figure 3). The third checklist summarizes recommendations for the management of a pregnancy complicated by a history of stillbirth (Figure 4). This

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**Evaluation**

- Perform thorough clinical history (environmental exposures, medications, illnesses [including infectious etiologies], trauma, inciting events, preexisting conditions, detailed family history).
- Offer fetal autopsy and provide clinically relevant information about pathology requisition.
  - Discuss advantages and additional information acquired with autopsy. *Review options for complete autopsy, limited (or minimally invasive) autopsy, imaging, and targeted biopsy.*
  - For further details, see Figure 2.
- Offer genetic assessment (karyotype, microarray, and consider whole exome sequencing/gene-specific tests, including targeted sequencing for long-QT/channelopathies).
  - Consider amniocentesis prior to delivery for genetic testing.
  - If amniocentesis is not performed, specimens (a portion of the placenta, umbilical cord, and/or internal fetal tissue) can be sent for genetic testing after delivery (see Figure 2).
- Perform the following screens or tests:
  - Feto-maternal hemorrhage screen with Kleihauer-Betke
  - Antiphospholipid antibody testing (LAC, Anticardiolipin antibodies, Beta 2 glycoprotein)
  - Syphilis screen
- If clinical history warrants, perform the following screens or tests:
  - Infectious/viral testing (serum, tissues)
    - CMV, toxoplasmosis, parvovirus
    - COVID
    - HSV
    - Bacterial cultures in the event of stillbirth with preterm labor process
  - Assessment of diabetes with hemoglobin A1c
  - Urine toxicology screen (must be obtained with full consent)
  - Bile acids
  - Anti-SSA/SSB
  - Targeted sequencing for long-QT/channelopathies

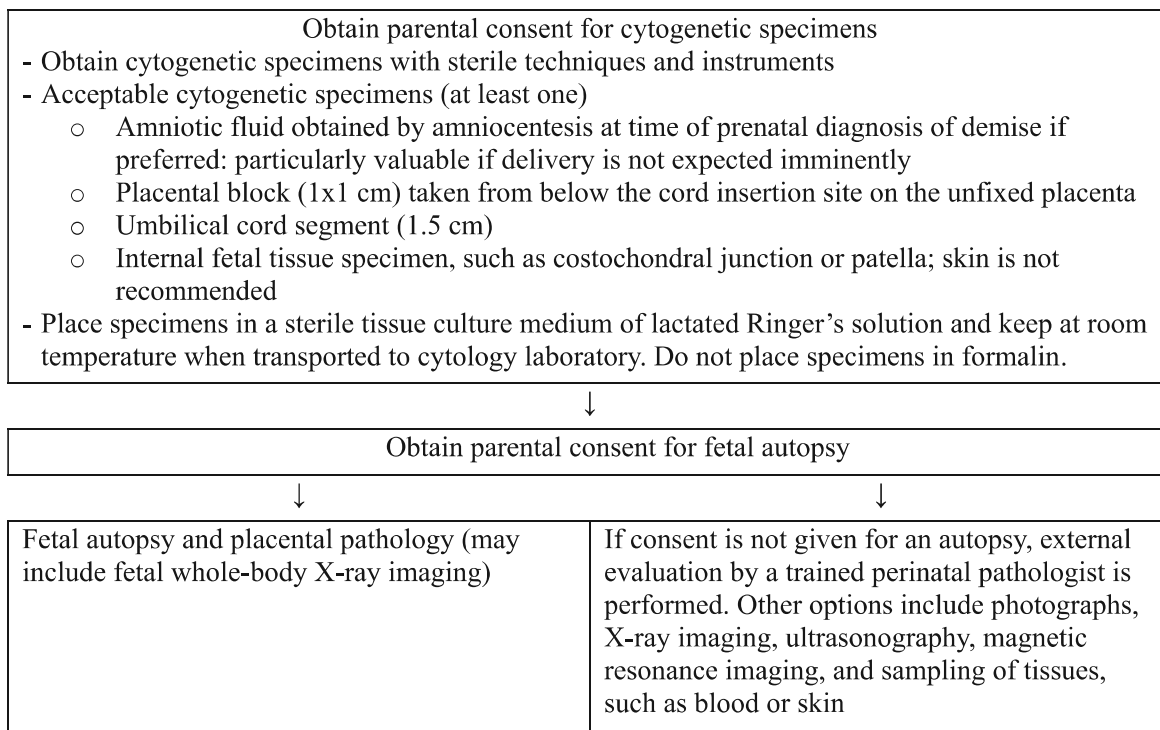
**Delivery considerations**

- Document gross appearance of the placenta, umbilical cord, and fetus. Describe morphologic abnormalities in detail.
- Send placenta to pathology and ensure appropriate clinical information on requisition.
- Counsel regarding delivery expectations and options.
  - Consider dilation and evacuation if clinically appropriate and available. *(Advantages and disadvantages of each modality depend on circumstances and gestational age.)*
  - Discuss options for pain management.
- Discuss desires for stillborn infant after delivery.
  - Options for burial and cremation per patient preference

**Postpartum care**

- Discuss expectations for milk production and options for lactation suppression and donation.
- Discuss physical expectations for birth recovery.
- Review potential post-birth complications and warning signs.
- Consider social work and/or clergy consultation if applicable and desired.
- Provide letter detailing known information with a follow-up plan (if indicated).
- Determine which clinician will follow up and how information will be communicated to the patient. Consider scheduling an outpatient consultation to review all returned data.
- Link to appropriate care for maternal medical comorbidities.
- Provide contraceptive counseling and discussion of options.

**FIGURE 1** Checklist for newly diagnosed stillbirth. Anti-SSA/B, anti-Sjögren's-syndrome-related antigen A or B antibodies; CMV, cytomegalovirus; HSV, herpes simplex virus; LAC, lupus anticoagulant.



**FIGURE 2** Further details on fetal autopsy. Reprinted with permission from [2].

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| <ul style="list-style-type: none"> <li><input type="checkbox"/> Acknowledge grief, discuss need for shared decision-making utilizing the CDC's 6 Guiding Principles to a Trauma-Informed Approach<sup>15</sup> upon diagnosis.</li> <li><input type="checkbox"/> Ask the family if they would prefer the baby to be called by name; if so, make this clear to the care team and document in chart.</li> <li><input type="checkbox"/> Discuss symptoms of mood disorders and expectations regarding grief.</li> <li><input type="checkbox"/> Continue postpartum surveillance and assessment of psychiatric morbidity with consideration for initiation of therapy and medication (with direction from psychiatry and social work).</li> <li><input type="checkbox"/> Provide patient and their family with a list of bereavement resources (including peer support).</li> </ul> |
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**FIGURE 3** Checklist for optimization of patient support and bereavement care. CDC, Centers for Disease Control and Prevention.

document also provides suggestions regarding checklist implementation, as well as possible quality indicators to evaluate for implementation success.

## 2 | SUGGESTIONS FOR IMPLEMENTATION

Successful utilization of any tool, such as a checklist, depends on the quality of its implementation [3]. Implementation science is a field dedicated to the systematic uptake of evidence-based practices into routine practice to improve the quality and effectiveness of health services [4]. The guiding principles of implementation science offer insight into how to best incorporate checklists, such as this one, into obstetric practice.

First, the decision to implement the stillbirth checklist should be made in a multidisciplinary fashion, involving all appropriate stakeholders. Given the nature of this checklist, appropriate stakeholders might include: administrative leads/staff, quality leaders, physicians (obstetrics, family medicine, maternal–fetal medicine as appropriate), midwifery, social work staff, nursing, trainees (including residents and fellows), geneticists, pathologists, and laboratory staff, with a focus on ensuring both inpatient and outpatient perspectives; transitions of care are critical to the success of this checklist.

Furthermore, groups can select a framework, theory, or model that may provide a scaffolding to the implementation endeavor [5, 6]. Popular frameworks, such as the Consolidated Framework for Implementation Research, aid implementers in considering all the possible factors

**Pre-pregnancy or initial prenatal visit**

- Detailed medical and obstetric history
- Evaluation and workup of previous stillbirth
- Determination of recurrence risk
- Smoking cessation
- Weight loss in obese individuals (pre-pregnancy only)
- Genetic counseling if a family genetic condition exists
- Diabetes screen
- Acquired thrombophilia testing: lupus anticoagulant as well as IgG and IgM for both anticardiolipin and Beta 2 glycoprotein antibodies
- Support and reassurance

**First trimester**

- Dating ultrasonography
- First-trimester screen: pregnancy-associated plasma protein A, human chorionic gonadotropin, and nuchal translucency or cell-free fetal DNA testing
- Support and reassurance

**Second trimester**

- Fetal sonographic anatomic survey at 18 to 20 weeks of gestation
- Offer genetic screening (if not performed in the first trimester) or single marker alpha fetoprotein (if first-trimester screening already performed)
- Support and reassurance

**Third trimester**

- Sonographic screening for fetal growth restriction after 28 weeks of gestation
- Antepartum fetal surveillance starting at 32 weeks of gestation or 1 to 2 weeks earlier than previous stillbirth
- Support and reassurance

**Delivery**

- Planned delivery at 39 0/7 weeks of gestation or as dictated by other maternal or fetal comorbid conditions. In cases of severe patient anxiety, in which there is a preference for early-term delivery (37 0/7 weeks to 38 6/7 weeks) to prevent recurrent stillbirth, such decisions must incorporate the understanding of the increased risks of neonatal complications with early-term delivery compared with the potential benefit.

**FIGURE 4** Checklist for management of subsequent pregnancy after stillbirth. IgG, immunoglobulin G; IgM, immunoglobulin M. Reprinted with permission from [16].

that might influence their implementation, such as the inner setting (e.g., is there tension for change compared to how the site is currently managing stillbirths?) and outer setting (e.g., how might local policies/laws impact checklist implementation?) [7, 8].

Stakeholders review and modify the checklists to meet the needs and workflows of their practice. For example, sites may elect to standardize further what laboratory work is sent and how such testing is performed or select a primary person who will always be responsible for relaying certain results, such as autopsy findings. Adaptation of the checklist to a specific site, while still maintaining its core features, has the potential to enhance success [9, 10].

Implementers should consider how the adapted checklist will be incorporated into care. Plans could include where the checklist(s) will live—either as paper or integrated into the electronic health record (EHR). Paper

presents limitations, especially given that stillbirth is a relatively rare event. In such cases, it may be difficult to locate the needed paper checklist and/or have the appropriate information transitioned from inpatient to outpatient care. Ideally, this checklist should live within the patient's EHR, as all steps cannot be completed at any one moment in time, and this will allow for tracking from the inpatient to outpatient settings. However, if the site does not utilize any or the same EHR for inpatient and outpatient care, this can pose its own challenges. Decisions can also be made about who (such as physician/midwife, nurse, or trainee) is responsible for completing the checklist and how it can be best incorporated into current workflows.

Finally, sites should select implementation strategies to enhance success that might work best in their individual context [11, 12]. Examples of such strategies might include education and training, selecting implementation

“champions,” or providing audit and feedback on checklist utilization throughout an initial implementation period [13]. Whatever strategies are selected to enhance implementation, an equity lens should be used to ensure that the implementation plan will reach all patients [14].

### 3 | SUGGESTED QUALITY INDICATORS

Checklists should evolve as new knowledge is gained and practice patterns change. After implementation, practice members should pay attention to any checklist items that might need to be added, revised, or corrected. If revisions are made, the version date should be edited, and copies of older versions should be discarded.

We suggest the following quality indicators to assess the effectiveness of the utilization of the checklist:

1. Completion of the placental pathologic exam for all cases of stillbirth
2. Documentation of counseling regarding genetic testing for all cases of stillbirth during inpatient stay
3. Appropriate referrals for psychosocial support services around stillbirth as well as providing bereavement resources
4. Occurrence of consultation after stillbirth with comprehensive review of all data and recommendations for subsequent pregnancy, including documentation of discussion around modifiable risk factors (i.e., tobacco, hypertension, diabetes, weight loss, etc.)
5. Completion of postpartum depression screening using a standardized measure during the postpartum inpatient stay or within 6 weeks postpartum
6. Disparities in the rates of these measures between different racial and ethnic groups

### 4 | CONCLUSION

The approach to a pregnancy complicated by stillbirth involves considering diagnostic evaluation, delivery considerations, postpartum management, and bereavement care. The goal of these checklists is to simplify and facilitate evidence-based care for patients with an acute stillbirth or a history of pregnancy complicated by stillbirth.

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