

Stillbirth Society of India

Preventing death before birth

Consensus Statement 2023

for

Safe Baby Bundle



STILLBIRTH
SOCIETY OF INDIA

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Message from President SBSI



Stillbirth is one of the most devastating life events with substantial physical, psycho social impacts on women, families & society. It's a huge public health concern. In 2019, globally an estimated 1.9 million babies were stillborn and India topped the wrong charts with maximum number of still births. They are invisible due to social taboos, stigma, isolation etc. There are no formal organizations in our country for raising voices of these bereaved parents & families. Every unborn baby has the right to receive best care. All bereaved parents must have the highest quality respectful bereavement care. It has been my proud pleasure to lead the Stillbirth Society of India --- the first formal organization dedicated to stillbirths in India.

I am very hopeful that through the medium of these consensus statements we will help in reducing preventable stillbirths and improving the care provided to parents following stillbirths.

These consensus statements will be released in the First Conference of The Stillbirth Society of India by joint efforts of SBSI and Department of Obstetrics & Gynecology, PGIMER, Chandigarh. We hope to focus on awareness, advocacy, dissemination, skill building, public forum, bereavement support on the subject of stillbirths.

“The temptation to quit will be greatest just before you are about to succeed.” —Bob Parsons . Let's continue to work on this neglected tragedy.

Neelam Aggarwal
President Stillbirth Society of India
Professor Dept. of Obstetrics & Gynaecology
PGIMER, Chandigarh



Message from Vice - President SBSI



Greetings to each one of you. Thank you for joining us in the effort to prevent all preventable stillbirths. We find huge disparity in the rates of stillbirths across the world varying from 2/1000 to 40/1000, with India at 13/1000. A closer look gives a direct relationship with economic development. Low-income families, societies, and countries have high stillbirth rates with a high proportion of intrapartum stillbirths, again reflecting resources in the intrapartum period. Majority of stillbirths are preventable. The causes of stillbirths are very well known, preventable aspects have been studied. Success stories from countries, institutions have shown that there are effective interventions. Time has come for each one of us, at individual, institutional and regional levels, to plan pathways in antenatal care and audit any adverse outcomes to learn and review. Every stillbirth must be evaluated completely at birth. There will be gaps in resources, training and implementation. Our priority will be to provide a training facility for the gaps; example placenta histopathology and autopsy as it's a major missing step in evaluation of stillbirth due to lack of expertise.

Creation of the Stillbirth Society of India has the sole central aim of preventing stillbirths. This is the first annual conference of the society, and we hope you will benefit for the scientific content and create networks across India to promote this initiative. A BIG thank you to the PGI Chandigarh team, for the entire conference, concept to creation, for making this possible.

Leaving you with a quote from Atul Gawande that fits the stillbirth prevention pathways; 'Better is possible. It does not take genius. It takes diligence. It takes moral clarity. It takes ingenuity. And above all, it takes a willingness to try.'

We thank you for joining our efforts to be better.

With best wishes

Nuzhat Aziz

Vice President, Stillbirth Society of India
Lead Consultant, Obstetric Emergencies Department,
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Message from Secretary SBSI



It is with immense pride and a shared sense of purpose that I present the Consensus Statements on Safe Baby Bundle and Evaluation of Stillbirth Cases, from the Stillbirth Society of India. This document stands as a testament of our commitment of understanding and addressing the complex issue of stillbirths. The journey towards formulating this consensus statement has been a harmonious symphony of collaboration, exchange of knowledge and experience, and perseverance. The process involved a team of experts who evaluated different National and International guidelines, published literature from south-east region of the world, other LMICs and the Indian subcontinent to arrive at these consensus statements.

We are indebted to our distinguished team leaders Professor Manju Puri and Dr Uma Ram who skilfully steered us towards a harmonious convergence of ideas and clear cut recommendations. They ensured seamless communication and balanced diverse viewpoints. They also tapped into the reservoir of personal journeys of our experts and their empathy and wisdom derived from their clinical practice and research. This has enriched the document to answer questions where the data was missing or not applicable to our settings. I thank each and every member of the two groups for their contributions.

We were extremely fortunate to have two dedicated coordinators, Dr Asna Ashraf and Dr Ayesha Ahmad who helped in organising zoom meetings, keeping minutes and sending timely emails. Later we discovered their passion for detail, aversion to typos and spellos, expertise in editing and formatting, and their aesthetic sense which brought the document into its final shape. I request each one of you to use and disseminate this document as guidance for healthcare providers, researchers, policymakers, and families, as we collectively strive to unravel the mysteries surrounding stillbirth and pave the way for a future marked by healthier pregnancies and brighter beginnings. With deepest gratitude to all contributors and an unwavering commitment to the cause.

Sincerely,

Tamkin Khan

Secretary Stillbirth Society of India
Professor Dept. of Obstetrics & Gynaecology,
JNMC, AMU, Aligarh

Foreword



Stillbirth is a silent epidemic with a devastating impact on the parents and the family. Modifiable stillbirths pose a great burden on the health of society. A baby is stillborn every 16 seconds and 84% of global stillbirths occur in low- and middle-income countries. A stillbirth is just the tip of the iceberg, a sign of a much bigger problem under the surface. UNICEF launched every newborn action plan (ENAP) in 2014 setting a global target of fewer than 12 newborn deaths per 1000 live births and fewer than 12 stillbirths per 1000 total births by 2030. India launched its ambitious newborn action plan (India newborn action plan; INAP) in September 2014 setting a target of reducing NMR and stillbirth rates to a single digit by 2030 by improving access and quality of care of mothers in antenatal and intrapartum periods.

A 'care bundle' is *a collection of interventions that are evidence based and may be applied to the management of a particular condition* to improve the processes of care and the outcomes. Stillbirth society of India has prepared this document “Stillbirth prevention bundle” which aims to compile evidence based antenatal interventions to reduce preventable stillbirths. This document includes good clinical practice recommendations on assessment and triaging of mothers as high or low risk for SB at the booking visit and subsequent visits, maternal and fetal monitoring of low risk and high-risk mothers, response to mothers presenting with decreased fetal movements and identification, monitoring and management of FGR fetus in a low-risk mother.

We sincerely hope that this document will guide the obstetricians to flag the mothers at risk of stillbirth and timely diagnosis of fetuses at risk like those with growth disorders and time their delivery for preventing stillbirths and optimize outcomes.

Manju Puri

Team Lead, Consensus Statement 2023 for Safe Baby Bundle

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1. Evaluation, Risk Assessment, and Interventions at Booking Visit for Stillbirth Prevention

Triaging pregnancy at first antenatal visit into high risk or low risk for stillbirth based on the presence or absence of risk factors helps in deciding the road map for further care. This must be initiated at booking visit and continued at each visit.

Recommendations:

1. **Detailed history and examination is desirable at booking visit to flag a woman at high risk for stillbirth. Risk factors can be divided in to maternal, foetal and pregnancy related.**

Maternal risk factors¹⁻⁶

- Age < 15 yrs and > 35 yrs
- Poor socioeconomic status such as a woman's ethnicity, race, migration status and economic situation
- Low educational status
- Malnutrition BMI < 18.5 kg/m² or BMI > 23 Kg/m².
- Pre-existing Medical disorders like Hypertension, Diabetes Mellitus, Hypothyroidism, Autoimmune disorders, cardiovascular diseases (prosthetic valves, cardiomyopathy, Pulmonary artery HT), Bronchial asthma, Sickle cell disease, Anaemia, Thalassemia, Epilepsy, Thrombophilia
- Mental disorders
- Smoking (active /passive) or substance abuse
- Domestic violence
- Infections Syphilis, TB, Malaria, HIV, Zika virus, Parvo virus, Varicella, UTI, Pneumonia
- Rh incompatible couple
- Previous history of HDP, DM, IHCP
- Bad obstetrical history: RPL, previous preterm birth, previous SB, previous SGA baby, previous abruption

- Previous CS or scarred uterus
- Uterine anomalies
- Family history of genetic disorders, medical disorders and consanguinity

Foetal risk factors

- Multiple pregnancies
- Foetuses with soft markers/ malformations
- Foetuses with growth disorders SGA/LGA
- ART pregnancies

Pregnancy related risk factors

- Preeclampsia
- GDM
- IHCP
- Preterm labour
- Postdated pregnancy
- Unclassified APH

2. Women at high risk may require a more intensive multidisciplinary care in special clinics.

3. Always provide tender loving care [TLC].¹⁻⁷

4. Preconception interventions for reduction of stillbirths

- Take a detailed medical and obstetric history. Review old records if there is a history of previous losses in the form of stillbirth or miscarriage.
- Evaluate any causes/ risk factors of previous stillbirth and determine risk of recurrence.
- Refer for genetic counselling if required, especially for prognostication in case any genetic causes are identifiable in previous losses.
- Advise on smoking cessation.¹

- Advise on optimization of BMI.¹
- Ensure optimization of maternal medical disorders such as diabetes mellitus, thyroid disorders etc, including appropriate referral to specialists using a multidisciplinary team approach.¹
- Review medications and switch to medicines safe for fetus.¹
- Start Tab aspirin [75-150mg] pre conceptionally in women with known anti phospholipid antibody syndrome [APLA] or history suggestive of APLA.¹
- Correct anemia

5. First trimester interventions for reduction of stillbirths

- Perform an early ultrasound for confirmation of an intrauterine pregnancy and dating the pregnancy.¹
- Nutritional risk assessment by calculating BMI and advising a CBC. Offer nutritional advice and supplements accordingly
- Perform screening for gestational diabetes mellitus [GDM] at booking visit using 75 gm fasting OGTT and repeat in second trimester. DIPSII may be used for screening if fasting OGTT is not possible.²
- Screen for thyroid disorders by advising serum thyroid stimulating hormone [TSH] levels.³
- Offer first trimester screening for aneuploidies using nuchal translucency scan, serum beta hCG, serum PAPP-A between 10+6 to 13+6 weeks of gestation. Refer to a fetal medicine specialist if results are abnormal.^{3,4,5}
- Combined pre-eclampsia screening should be offered between 10+6 weeks to 13+6 weeks of gestation by identifying maternal risk factors, measuring mean arterial pressure [MAP], uterine artery pulsatility index [PI] and PAPP-A and PLGF levels . Consider administration of Tab aspirin 150mg at night to women at risk of preterm pre-eclampsia [PE]⁵
- Discuss and prepare an individualized care plan for the pregnancy including antenatal surveillance and timing of delivery.
- Start low molecular weight heparin [LMWH] for women with APLA after demonstration of cardiac activity.²

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2. Maternal Monitoring in 2nd and 3rd Trimesters for New Risk Factors During Pregnancy

Aim is to reduce preventable morbidity and mortality through systematic monitoring of maternal and fetal well-being for complications, that may be asymptomatic, but detectable.

Recommendations:

Frequency of Check-ups

- A pregnant low-risk woman should have at least 8 antenatal visits with first visit preferably in first trimester then subsequent visits between 18-22 weeks, 24-26 weeks, 28-30 weeks, 32-34 weeks, then every 2 weeks. ^{1,2,3}
- Risk factors should be identified early, and clearly communicated to the woman in a sensitive manner, in the language that she understands. ^{2,4}
- When a risk factor for SB is identified, optimise management according to the available clinical practice guidelines and tailor the frequency of visits according to her condition. ²

Components of Each Check-up (Monitoring and Interventions)

1. Nutrition and weight:

- Identify and offer advice about under and over nutrition at first and subsequent visits. ^{1,3}
- Weight to be recorded at every visit, and intended weight gain appropriate to BMI class advised - 12.5–18 kg for underweight women (< 18.5 kg/m²), 11.5–16 kg for normal weight women (18.5–24.9 kg/m²), 7–11.5 kg for overweight women (25–29.9 kg/m²) and 5–9 kg for obese women (> 30 kg/m²). ^{1,5,6,7}
- Interpretation and interventions should take into account that Indian women may gain less weight during pregnancy than other populations. ⁷

2. Ultrasound assessment:

- Advise a fetal sonographic assessment at 18-22 weeks for structural defects. Placental localization should be done for all women.

- Advise Uterine artery PI Doppler in women with risk factors for small for gestational age [SGA] baby or hypertensive disorders of pregnancy if not done already, those detected to have an abnormal result should be followed up closely for increased risk of developing FGR by USG.
- Offer universal cervical length screening at the time of anomaly scan for all women and consider offering vaginal progesterone or cervical cerclage based on previous history of preterm birth and findings of cervical length in the present pregnancy.
- Refer to a trained sonologist/ fetal medicine expert for fetal echocardiography at 24 weeks in case of previous history of stillbirth/ high risk of fetal cardiac disorders in present pregnancy.

3. **Screening for anaemia:**

- Complete hemogram should be done at booking visit and repeat haemoglobin estimation at 24, 32 and 36 weeks.
- Anemia should be diagnosed and appropriately treated. If available hemogram at 36 weeks is preferred instead of Hb estimation.¹

4. **Screening for asymptomatic bacteriuria**

- Mid-stream urine culture at booking, 24 and 36 weeks followed by adequate treatment.¹

5. **Screening for infections**

- Counselling regarding prevention, screening and management of sexually transmitted diseases, and screening for infections with risk of vertical transmission to be done at booking which includes HIV, HBsAg, VDRL.
- Repeat the screening at term specially for those at risk of sero-conversion.¹
- In malaria endemic zones malaria prophylaxis should be offered.¹

6. **Screening for hypertensive disorders of pregnancy (HDP)**

- Blood pressure should be measured at each visit by correct technique and appropriate cuff size.
- Ideally first trimester combined screening and risk categorisation for HDP should be done if facilities are available, and low dose aspirin advised to women at high risk of pre-eclampsia - if first visit is in the second trimester clinical assessment of risk factors can be done.

- Aspirin can be started in 2nd trimester if not started earlier.²

7. Screening for Hyperglycaemia

- Use 75 gm OGTT (DIPSI) or 75 grams WHO OGTT at booking visit to screen for diabetes.
- For those screened negative in the first trimester, repeat screening at 24-28 weeks is indicated.^{1,2,8}
- At 24 to 28 weeks - the screening for gestational diabetes with fasting OGTT with IADPSG cut off is best. When fasting OGTT is not possible DIPSI is used as a screening tool.

8. IHCP screening

- Enquire about history suggestive of intrahepatic cholestasis -- pruritis without rash mainly on palms and soles and offer testing for bile acid and LFT.²

9. Smoking/ tobacco use

- Elicit history of tobacco chewing, smoking or passive smoking at every visit, and counsel regarding risks.^{1,4}

10. Awareness of foetal movements

- Pregnant women should be sensitized about the importance of being aware of the movements of her foetus and report to health facility if she perceives decreased fetal movements (DFM), starting at 28 weeks.^{2,4}
- Care for women who report RFM should be immediate, and protocol based.

11. Sleep position

- Women should be informed that after 28 weeks of pregnancy, going to sleep on their back can increase their risk of stillbirth and they should sleep on their side (whether right or left) ⁴

12. Screening for intimate partner violence (IPV)

- Elicit history suggestive of intimate partner / family violence in a sensitive manner at each visit.^{1,4,9}

13. Antenatal Anti D immunoprophylaxis

- Antenatal prophylaxis with anti-D immunoglobulin in non-sensitized Rh-negative pregnant women to be given at 28 weeks of gestation to prevent RhD alloimmunization.¹

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3. Fetal Monitoring in 2nd and 3rd Trimesters

Assessment of fetal growth is one of the core elements of antenatal care for stillbirth prevention. The objective is to identify fetuses with growth disorders (small and large for gestational age) who are at increased risk of stillbirth. Risk assessment for stillbirth should be done at booking and at every visit thereafter for effective, personalized, continuous stratification of pregnancy care. Standard methods for monitoring fetal growth in the second half of pregnancy include serial assessment of symphysio-fundal height (SFH) by palpatory method, serial measurement of SFH by a measuring tape and serial fetal biometry by ultrasound ¹.

1. Methods of Monitoring Fetal Growth in Second Half of Pregnancy

(>26 weeks or limits of viability in your setup)

- It is preferable to do serial measurement of SFH with measuring tape every 2-3 weeks and plotting it on a customized growth chart over assessment by palpatory method at antenatal visit ^{1,2}.
- The measurement is said to be discordant when fundal height is 4 weeks discordant by palpatory method or at least 3 cm less by SFH measurement. This finding should be a trigger for further assessment by ultrasonography.
- When SFH is likely to be inaccurate as in multiple fibroids, polyhydramnios or high BMI, consider evaluation by ultrasound.
- Serial fetal biometry by ultrasound every 3-4 weeks using standard method and plotting it on customized growth chart is more objective and accurate than SFH ^{2,3}
- The deviation of the estimated SFH or estimated fetal weight from the expected mean for a particular gestational age plotted on growth charts should be expressed as a centile. Using customised centiles if available is the best practice. If not possible then population based charts can be used. Any of the following growth charts may be used--- INTERGROWTH-21st ⁴, WHO growth charts ⁵, Grow charts ⁶.

2. Triaging into Low risk or High risk for Stillbirth

- All mothers should be triaged as low risk or high risk for fetal growth disorders at booking visit and then at subsequent visits to flag those at a higher risk of stillbirth hence requiring increased surveillance².

High risk factors ⁷

- Maternal: Adolescent pregnancy, advanced maternal age ≥ 35 years, BMI < 18.5 or BMI > 35 Kg/M², Kg.m² multiple pregnancies, history of FGR/stillbirth/perinatal loss, smoking, drug abuse, hypertension in pregnancy, deranged blood sugars, chronic kidney disease, antiphospholipid syndrome.
- In the current pregnancy unexplained antepartum hemorrhage, PAPP-A levels less than 0.415 MoM or increased uterine artery pulsatility index in 1st /2nd trimester
- Foetal: Prenatal diagnosis of a genetic or structural anomaly, soft marker such as echogenic cardiac focus, echogenic bowel ²

3. Monitoring Fetal Growth (Optimal Standards)

Low risk mothers

- Serial measurement of symphysis-fundal height (SFH) with plotting on growth chart to assess growth centile and watch for consistent growth velocity on subsequent antenatal visits ^{2,8}
- Mothers must be made aware of mindfetalness (being aware of the quantity and quality of movements of their fetus)⁷
- Routine growth scan in the third trimester between 35 + 0 to 36 + 6 weeks' gestation has higher predictive performance for detection of SGA than at 31 + 0 to 33 + 6 weeks. EFW being more sensitive than fetal AC ⁹
- Doppler flow studies should be the surveillance tool in those detected as SGA².

High risk mothers

- Mothers with risk factors must be offered serial ultrasound for fetal biometry, estimated fetal weight and assessment of wellbeing with umbilical artery Doppler from 24–28 weeks of pregnancy ⁹
- All mothers should have a uterine artery Doppler at the time of anomaly scan ²
- Doppler flow studies should be the surveillance tool in the SGA fetus. ⁸

4. Monitoring Fetal Growth (Reasonable Standards)

Low risk mothers

- Serial measurement of symphysis-fundal height (SFH) with plotting on growth chart to assess growth centile and watch for consistent growth velocity on subsequent antenatal visits.²
- Mothers must be made aware of mindfetalness (being aware of the quantity and quality of movements of their fetus).⁷



High risk mothers

- Ultrasound surveillance is tailored on individual basis and as per clinical need and its availability⁸.
- Indications for further obstetric ultrasounds include women for whom measurement of fundal height may be unreliable (for example mothers with high body mass index, large fibroids, polyhydramnios)²
- Umbilical Artery Doppler should be the primary surveillance tool for those detected as SGA ².

5. Triggers for Further Investigations:

- A fundal height discordant by 4 weeks by palpatory method, or at least 3 cm less by SFH measurement, or clinical examination of SFH less than 10th centile or more than 90th centile of expected value, when plotted on standard reference centile chart ¹⁰
- Falling centile of fetal growth on chart: Fall of EFW by more than 2 quartiles between ultrasound at the gap of 3-4 weeks ¹¹.
- Diagnosis of small for gestational age (less than 10th centile for gestational age)
- Oligohydramnios
- Raised uterine artery Doppler in second trimester.
- Foetal growth restriction according to Delphi criteria¹¹
- Patient reporting with decreased foetal movements

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4. Monitoring Fetal Movements and Management of Reduced Fetal Movements

Reduced Fetal Movements (RFM) are associated with increased risk of stillbirths^{1,2} and adverse pregnancy outcomes like preterm labour, fetal growth restriction (FGR), small for gestational age (SGA), congenital abnormalities, fetomaternal haemorrhage^{3,4,5} specially when recurrent^{2,4}

Recommendations:

- Mothers should be provided with verbal and written information about fetal movements (FM) by 28 weeks and the same should be reinforced at each antenatal visit.
- Mothers should be taught to observe their baby's FM pattern known as Mindfetalness^{6,7}.
- They should be informed that alteration in FMs is a sign of fetal compromise though most mothers who experience decreased FMs give birth to a healthy child
- She should be advised to report for urgent assessment if she notices any decrease in strength and or frequency of FMs after 28 weeks of gestation or if she is unsure or uncertain about the FMs. She must not wait for next day^{8,9,10}
- In case any mother reports with a concern related to FMs – whether reduced, weaker, absent, or too vigorous - evaluation is required irrespective of whether she is a case of low risk or high risk pregnancy.^{1,11}
- There is no evidence to support the routine use of 'kick chart'. Its use is not currently recommended as part of routine antenatal care.¹²
- Kick count charts increase patient anxiety and women should be reassured that 70% of pregnancies with a single episode of RFM are uncomplicated^{13,14,9,15}

Stepwise Protocol for Management of RFM^{13,16,9,17,18, 19,20, 21, 22, 23,24,25}

A detailed history and clinical examination is done. Her antenatal records are reviewed to identify any high-risk factors for stillbirth.

- Clinical assessment of fundal height is done to see if it corresponds to the gestational age

- Fetal heart is auscultated preferably with a hand-held Doppler rather than a stethoscope as it is reassuring for the mother to hear the fetal heart sounds.
- If fetal heart sounds are heard then perform CTG within 2 hours to assess fetal well being
- Convey results of investigations to the mother, reassure her and encourage her to report immediately if she has further concerns about decreased FM reassuring her that she has done the right thing in presenting for assessment even if no abnormal finding is detected ^{9,20,21}.
- In case FHS is not heard on auscultation arrange for immediate ultrasound assessment
- If CTG is reassuring USG is done in next 24 hours if not already done in previous 2 weeks.
- Immediate USG is offered for assessment of fetal growth, viability, liquor volume, to rule out gross congenital malformations, and umbilical artery Doppler at first presentation if pregnancy is beyond 28+0 weeks and CTG is not available or if there is any another indication for scan like FGR, history of recurrent decrease in FM, suspected feto-maternal hemorrhage etc
- In low risk women with recurrent decreased FM after 39 weeks discuss induction of labour and offer delivery. ^{23,24,25}
- In low risk presenting at gestational age between 37-39 weeks with recurrent decreased FM individualize care based on shared decision making and written information according to her gestational age ¹⁸.
- If feto-maternal hemorrhage is suspected by history of abdominal trauma, sinusoidal fetal heart rate pattern or fetal hydrops on USG or abnormal MCA Doppler offer testing for feto-maternal haemorrhage by Kleihauer test.

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5. Management of Low-risk Mother Diagnosed with Fetal Growth Restriction

Key Recommendations :

1. Confirmation of Diagnosis of Fetal growth restriction [FGR] and Evaluation for Aetiology

- Confirmation of gestational age should be the first step whenever FGR is suspected. This can be done by menstrual history, dating scan (first trimester CRL is the best method for accurate dating of pregnancy). (Good Practice point)
- For confirming the diagnosis of FGR, foetal biometry by measuring by AC, EFW and Doppler flow studies, is done and diagnosis is confirmed based on the Delphi criteria for early onset and late onset FGR.
- Doppler flow studies must include umbilical artery and middle cerebral artery in late onset FGR, and umbilical artery, uterine artery and ductus venosus in early onset FGR.
- Detailed sonographic assessment for structural anomalies/soft markers and any signs of TORCH infections should be done cases of in severe FGR and early onset FGR.
- Maternal screening for congenital infections like CMV and toxoplasmosis. malaria, rubella, herpes and zika virus may be included in at risk cases.
- In women who have no clinical risk factors for early onset FGR offer karyotyping followed by microarray if required.

2. Antenatal Monitoring

The main objective of foetal monitoring after the diagnosis of FGR is to provide a safety net against stillbirth. It is done to detect the foetus, which is at risk of irreversible compromise, so that timely delivery can be planned by balancing the risk of prematurity compared to risk of IUFD and neonatal mortality and morbidity. Overall risk of stillbirth among FGR with abnormal Doppler is high: AEDF 6.8% OR 3.6 [2.3–5.6], REDF 19% OR 7.3 [4.6–11.4] and abnormal DV 20%, OR 11.6 (6.3–19.7). However, with strict foetal surveillance it can be reduced significantly (AEDF 0-1%, REDF 1-2%, abnormal DV 2-4%).

1,2.

Foetal surveillance tests include:

- Mindfetalness or awareness of foetal movements

- Non stress test (cardiotocography)
- Ultrasound evaluation of foetal growth and amniotic fluid
- Doppler ultrasound of the foetal arterial and venous circulations.

Recommendations:

- Frequency of antepartum surveillance and timing of delivery should be decided according to the severity of FGR, foetal Doppler changes, gestational age and associated maternal complications.
- In women without any risk factors the monitoring and management protocol should be determined by the Umbilical Artery Doppler findings.

The frequency of antenatal checkups, frequency of ultrasound, Color Doppler, and timing have been summarised in table according to the available evidence.

Table 1: Monitoring & timing of delivery of low-risk mother with FGR ^{3,4,5,6}

Early FGR	Antenatal Check-up	USG for EFW	Doppler	CTG/BPP	Delivery
EFW < 3rd centile with normal Doppler & adequate liquor	Weekly	2 weeks	Weekly	Weekly	37 weeks
EFW 3- < 10 th centile with normal Doppler & adequate liquor	Weekly	2 weeks	Weekly	Weekly	38-39 weeks
FGR with mild abnormalities UA PI > 95 th centile Or MCA PI < 5 th centile Or CPR < 5 th centile Or Oligohydramnios Or Suboptimal interval growth	Twice a week Steroid cover	2 weeks	Weekly	1-2 times per week	37 weeks
FGR with AEDF/REDF	Inpatient monitoring Steroid cover	2 weeks	Every 1-2 days	1-2 times per day	AEDF 32-34 weeks REDF 30-32 weeks

3. Mode of Delivery

Early FGR is usually secondary to severe placental disease and foetus is already hypoxic therefore such foetuses are less likely to tolerate the stress of labour and caesarean rate is very high (80%). Primary caesarean can be offered in cases of FGR with AEDF/REDF or abnormal DV flow OR Induction can be planned after explaining the risk of emergency caesarean. ^{7,8}

Late FGR- vaginal delivery is the preferred mode and found successful in more than 80% of cases. ⁹

- For Induction, mechanical methods should be preferred as they are safe as compared to prostaglandins with less risk of caesarean section and intrapartum complications.
- Prostaglandins should be avoided and if necessary use a reversible method like Dinoprostone vaginal pessary with careful monitoring for fetal well-being. ¹⁰

4. Intrapartum Monitoring & Place of Delivery

- Optimal intrapartum care using continuous electronic foetal monitoring is recommended once woman is in labor.
- In low resource settings careful intermittent auscultation of fetal heart post contraction every 15-30 min in first stage and after every contraction in second stage is advised.
- Early rupture of membranes is recommended as it may help in timely detection of meconium
- Delivery should be planned in a place where facilities for emergency operative delivery are available
- Such babies should be delivered at a facility where appropriate neonatal care is available.

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6. IEC Material SBSI

Stillbirth Society of India

Preventing death before birth

SBSI Pre-Conception Care Bundle

1. Every pregnancy should be a planned and wanted pregnancy
2. If you are having hypertension, diabetes, epilepsy, heart disease, renal disease or any other illness consult a doctor before you plan a pregnancy
3. Switch over to safe drugs for these diseases before you plan your pregnancy with the help of your doctor
4. Quit smoking
5. Aim for ideal body weight
6. Start folic acid tablets
7. Consult a doctor as soon as you become pregnant



For more information visit our website:
<https://www.stillbirthindia.org/>.



Stillbirth Society of India

Preventing death before birth

SBSI Safe Baby Bundle

1. Regular antenatal checkups
2. Healthy balanced diet
3. Monitor weight
4. Monitor baby's movements
5. Quit smoking/ tobacco
6. Sleep on your side
7. Institutional Delivery



For more information visit our website:
<https://www.stillbirthindia.org/>.



Stillbirth Society of India

Preventing death before birth

SBSI Safe Baby Bundle Don'ts



1. **Avoid self-medication**
2. **Avoid contact with sick persons (infections)**
3. **Avoid smoking and alcohol**

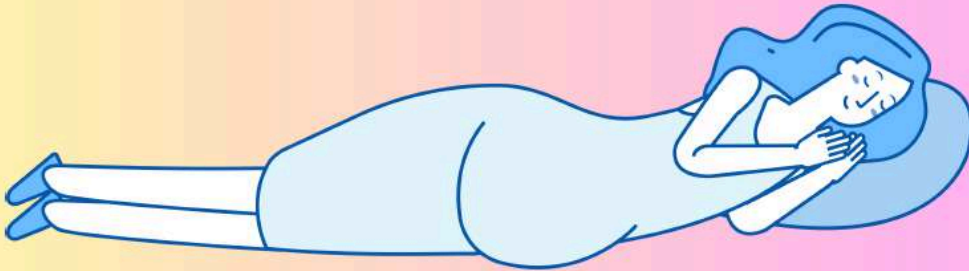


For more information visit our website:
<https://www.stillbirthindia.org/>.

Stillbirth Society of India

Preventing death before birth

Sleep Position in Pregnancy



- **Sleeping on your back after 28 weeks of pregnancy, increases the risk of stillbirth**
- **Sleep on your side (whether right or left)**



For more information visit our website:
<https://www.stillbirthindia.org/>.

Stillbirth Society of India

Preventing death before birth

'Mindfetalness - Connect with your Baby'

1

You should be able to feel your baby's movements by the 5th month of pregnancy

2

Be aware of what is normal for your baby--all babies are not alike.

3

Change in fetal movements may suggest that your baby is in danger

4

Report to your doctor without delay if any change in the the strength or pattern of movements (increased or decreased than usual)



For more information visit our website:
<https://www.stillbirthindia.org/>.

