

Fetal Medicine Services



Conditions We Treat

A vast range of conditions can be treated because of the team of experts available at Apollo Centre for Fetal Medicine

At the Apollo Centre for Fetal Medicine, experts in maternal-fetal medicine, fetal surgery, neonatology and paediatric surgery share a passion for providing exceptional, comprehensive care for mothers and babies experiencing complex fetal conditions or high-risk pregnancy.

Our team provides care in an atmosphere of compassion, knowing that patients and families are sometimes dealing with difficult decisions and fears about the future.

We offer prenatal evaluation, fetal diagnosis and treatment services that consider both you and your baby throughout your pregnancy and after delivery.

Prenatal Screening

Prenatal screening is testing for diseases or conditions in a fetus before it is born. Screening tests tell you your CHANCE of having a baby with Down syndrome, trisomy 18 or an open neural tube defect

Fetal Diagnosis

Fatal birth defects can be detected before birth because of the world-class imaging and diagnostics available at Apollo Centre for Fetal Medicine

Genetic Counselling

Genetic counsellors will discuss your family history with you, explain diagnostic procedures and give you resources for emotional support when you need them.

High Risk pregnancies

We at Apollo Centre for Fetal Medicine are experienced in managing high-risk pregnancies and taking specialized care of pregnant women with complex maternal-fetal conditions.

Why Choose Us

We offer a multidisciplinary approach to treating pregnancies with fetal abnormalities and work with your obstetrician in planning management of pregnancies complicated by maternal disease

2006

Apollo Centre for Fetal Medicine

starts operations as North India's only dedicated fetal medicine centre led by **FMF-UK** trained fetal medicine specialist Dr Anita Kaul.

Over **18,000⁺** patients evaluated at the centre since 2006



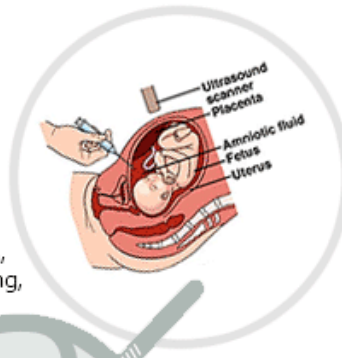
Multidisciplinary Team

2011

Fetal surgery program launched

1200⁺ Invasive procedures

performed at the centre including Amniocentesis, CVS, Intrauterine transfusion, Fetal blood sampling, Amnio drainage, Embryo reduction, etc.



We are the only centre in North India to offer

Fetal Surgery



Our team is among the most experienced in India at treating complex birth defects.

- We are the only fetal centre in North India offering comprehensive care from diagnosis to in utero treatment to delivery to postnatal surgery, including paediatric cardiac surgery, all under one roof.
- We are available 24X7 and from the first phone call we can start coordinating all the services you may require. A team approach with our allied specialties is offered if necessary so that you and your fetus receive the best solution to any problems that your baby may be facing.
- We have seen over 18000 patients since August 2006, many with complex fetal problems and complicated pregnancies and our experience with treating such patients keeps growing.
- We constantly work to improve and advance both our fetal diagnosis and therapy techniques.
- We were the first centre to establish and propagate the first trimester combined Down syndrome screening programme according to Fetal Medicine Foundation criteria in India and regularly conduct internal and external quality control audits to ensure that our prenatal screening service is running effectively.
- We treat a wide range of fetal problems including in utero medical and surgical therapy.
- We have a dedicated Fetal Cardiac Service offering prenatal diagnosis, counselling and subsequently pediatric cardiac surgery as necessary.
- Our neonatal intensive care unit is led by senior neonatal consultants who have several years of experience in taking care of preterm and growth restricted babies as well as babies who have been operated on for a variety of birth defects.
- We work closely with your referring doctor and provide support services to them so that the pregnancy outcome can be optimized. It is possible for many expectant mothers to be monitored as on an outpatient basis during their pregnancy.
- We educate other doctors about fetal conditions and treatment through our many CMEs and workshops. We also run a Fellowship programme in Fetal Medicine in association with Prof. Kypros Nicolaides and the Fetal Medicine Foundation, UK (FMF-UK)
- We maintain international standards of fetal care and follow the FMF-UK and the International Society of ultrasound in Obstetrics and Gynaecology (ISUOG) guidelines in all our practice.

● Prenatal Screening

Prenatal screening are blood tests with an ultrasound, which are done starting at 11 weeks of pregnancy and they tell you your chance of having a baby with Down syndrome, trisomy 18 or structural abnormality.

Screening tests cannot tell you for sure whether or not your baby has one of these three conditions, only the chance of this. To find out for sure, you would have to decide whether to have a DIAGNOSTIC test

Down Syndrome Screening

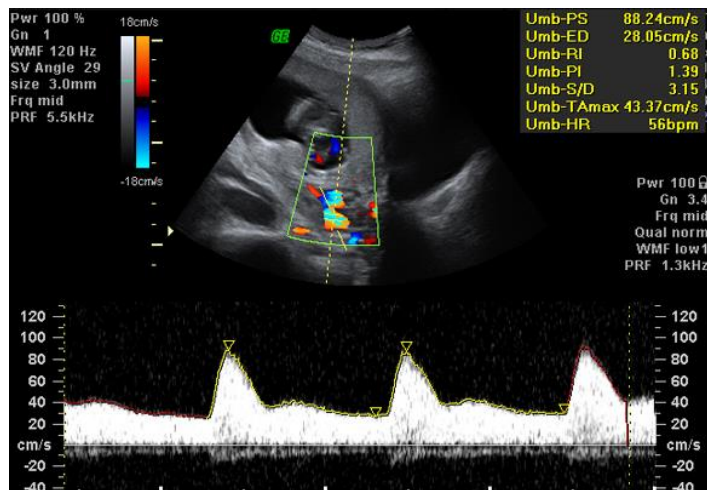
Every woman has a risk of having a baby with Down syndrome. A screening test is offered to all women during early pregnancy to look at the risk in this pregnancy of the baby being born with Down syndrome.

It is important to understand that the screening test does not give a definite 'yes' or 'no' answer as to whether or not the baby does have Down syndrome. If your screening test shows a high risk that the baby has Down syndrome, you will usually be offered a diagnostic test.

- [Combined first trimester screening or NT scan](#)
- [Non-invasive cell free fetal DNA test \(NIPT \)](#)
- [Quadruple test](#)
- [Genetic sonogram.](#)

Pre-eclampsia Screening

Pre-eclampsia occurs in around 1 in 50 pregnancies. It is pregnancy induced high blood pressure and is one of the most common life threatening conditions occurring in pregnancy.



Pre-term labour screening

Premature or preterm labour is when you have labour pains which opens and shortens your cervix before 37 weeks of gestation. This leads to the baby being born too early. About 1 in 10 babies are born premature.



Fetal Diagnosis

A number of potentially fatal birth defects can be detected before birth because of the advanced imaging and diagnostics available at Apollo Centre for Fetal Medicine.

High-risk pregnancies involve rare medical conditions not seen in a routine pregnancy. Detection of these conditions typically requires special knowledge, expertise, testing methods and equipment. An early and accurate diagnosis is vital to clarifying the plan of treatment for high-risk pregnancies and improving the outcome.

Specialists at the Apollo Centre for Fetal Medicine use a variety of high-tech tools to assess and diagnose fetal conditions. Some of the commonly used diagnostic tools include:

Ultrasound scan to assess structural abnormalities

- [Early anomaly scan \(12-16 weeks\)](#)
- [Second trimester anomaly scan or Level-II scan](#)
- [Multiple Pregnancy scan](#)

Ultrasound scan to assess fetal health

- [Fetal viability scan](#)
- [Fetal wellbeing scan](#)
- [Doppler scan](#)

Fetal echocardiography

Imaging the fetal heart with ultrasound technology to understand the fetal cardiac structure, function and rhythm.

Advanced imaging

- [3-D and 4-D Ultrasound](#)

This sophisticated tool can help doctors identify structural abnormalities that older tests would miss.

Invasive Procedures

- [Chorionic Villus Sampling](#)
- [Fetal Blood Sampling](#)
- [Genetic Amniocentesis](#)
- [Embryo Reduction](#)

Genetic Counselling

Our fetal medicine fellows will discuss your history, and offer families with pregnancy complications the advanced fetal diagnostic and clinical resources.

We make sure you receive the best possible care.

Evaluation of your family history.

Our genetic counsellors will discuss the health of your pregnancy and make recommendations based on your family's history.

Advice about non-invasive and minimally invasive tests.

When you need help understanding the purpose, risks, benefits and limits of diagnostic procedures, our genetic counsellors will talk with you about what to expect.

Compassionate family counselling.

It can be difficult to navigate the emotional challenges that surround the diagnosis of a fetal condition. Our genetic counsellors are here to provide you with support when you need it.

Compassionate family counselling.

When a fetal treatment is a possibility, our genetic counsellors act as your advocate to help you understand the situation and to make sure you and your unborn baby receive the best possible care.

High Risk pregnancies

We at Apollo Centre for Fetal Medicine are experienced in managing high-risk pregnancies and taking specialized care of pregnant women with complex maternal-fetal conditions. Our specialists consult with your referring Ob-Gyn and closely monitor and evaluate the risks throughout the pregnancy. Our flexible model helps you deliver at your local clinic or hospital under the care of your primary Ob-Gyn.

The following high risk pregnancy conditions are evaluated and monitored at our centre:

- Pre-pregnancy counselling
 - Recurrent pregnancy loss
 - Previous unexplained intrauterine fetal demise (IUFD) or stillbirth
 - Known genetic disorder in family
- Pregnancy with previous child affected by thalassemia
- Pregnancy with suspected fetal infection (TORCH, chickenpox)
- Pregnancy with Diabetes

- Pregnancy with chronic hypertension
- Pregnancy with chronic hypertension
- Pregnancy with heart disease
- Pregnancy with autoimmune and connective tissue disorders
 - Pregnancy with thrombophilias
 - Systemic Lupus Erythematosus (SLE)
 - Sjogren's syndrome
 - Rheumatoid arthritis
- Pregnancy after transplant
 - Renal transplant
 - Liver transplant
- Pregnancy with suspected morbidly adherent placenta (MAP)
- Management of fetal growth restricted babies (FGR)
 - Dopplers
 - Non stress test (CTG)

Fetal Brain Clinic

There are few things as intriguing in fetal anatomical survey as the fetal brain. The evaluation of the evolving brain poses a great challenge in interpretation and subsequent diagnosis. This is further complicated by possible recurrence of these abnormalities in subsequent pregnancies.

Fetal Therapy

As India's very few comprehensive fetal care centre in the diagnosis and treatment of abnormalities in unborn infants, Apollo Centre for Fetal Medicine is committed to providing the best possible care and outcome for each mother, baby and family.

Led by Fetal medicine specialist Dr Anita Kaul our core team of fetal and paediatric surgeons, maternal fetal medicine specialists and specialized coordinators specializes in treating complex and rare fetal conditions.

Our fetal treatment centre combines the talents of our colleagues in pediatric surgery, genetics, obstetrics/perinatology, anesthesia, paediatric cardiology, nursing, and neonatal medicine to offer the most comprehensive multi-disciplinary approach to patient care.

Since 2006, our team has evaluated more than 4,000 high-risk pregnancies at the center. This experience enables us to provide the most sophisticated, effective therapies available

Call to request an appointment or speak with a specialist. You can also use our **contact us 9560027207**

Fetoscopic laser photocoagulation is the preferred method of treatment for certain severe cases of *twin-twin transfusion syndrome*

What is Fetal Surgery

We offer the full spectrum of fetal therapies except FETO or open fetal surgery at present.

Fetal surgery is a highly complex surgical intervention to repair birth defects in the womb that requires the most expert care for both mother and unborn baby.

It is estimated that there would be about 487,000 babies born with birth defects in India, out of these 7200 per year are in Delhi. Maternal-fetal specialists have long known that some birth defects could be successfully treated after birth. But as technology, fetal imaging and prenatal testing have improved in the past few decades, so too has our knowledge of fetal development.

Expanded diagnostic tools have allowed us to identify more precisely when conditions worsen during fetal development. This knowledge has helped us develop new ways to help babies sooner. Today, fetal therapy is recognized as one of the most promising fields in fetal medicine, and prenatal surgery is becoming an option for a growing number of babies with birth defects.

We follow the principles laid down in 1982 when fetal surgery was first contemplated.

Pre-requisite for considering fetal surgery*

Fetal conditions which warrant in utero therapy are usually simple structural defects that interfere with normal fetal development but if corrected will allow normal development to proceed

Accurate prenatal diagnosis

Exclusion of associated structural and genetic abnormalities

Normal fetal karyotype

An understanding of the natural history of the disease with established prognosis – fetal intervention is justified only if there is a reasonable probability of benefit from it

Serial evaluation of the fetus to differentiate those with mild disease who may not need intervention from those with severe disease who will not survive without intervention

Therapy proven to be useful at least in animal models

Informed consent after detailed discussion with the family regarding risks and benefits including long term outcomes

Multidisciplinary team comprising obstetrician with interest in high risk pregnancy, fetal medicine specialist, neonatologist, paediatric surgeon and psychologist

Centre equipped with the logistics, instruments, expertise and intensive care nursery to deal with these uncommon procedures

* Adapted from Harrison et al, 1982

We offer comprehensive fetal care in one centralized location

Intrauterine transfusion

An ultrasound-guided fetal intervention where a needle is inserted into the umbilical cord or the fetal abdomen and blood is transfused to the baby for treatment of severe anemia.

Fetoscopic laser photocoagulation for TTTS

A surgical procedure using a small camera (fetoscope) to locate the abnormal blood vessel connections and treat the problem by sealing the abnormal connections using laser energy.

Radio frequency ablation or umbilical coagulation for complicated monochorionic pregnancies

rare and highly selective fetal intervention where out of concern for the coexisting twin's health or life, blood flow to the affected twin is interrupted using radiofrequency waves or bipolar energy. A clinical example of this procedure being used is a TRAP sequence, where the life of the pump twin is in imminent danger.

Fetal shunt placement

An ultrasound-guided fetal intervention where a tube (shunt) is placed in the abdomen of the fetus to connect the bladder to the amniotic cavity, leading to drainage of the blocked urine.

Amniotic band resection

Amniotic bands that are constricting the umbilical cord or the extremities and threaten amputation may be divided. With a combination of ultrasound guidance and fetoscopy (a tube with a camera at the tip inserted into the uterus), the bands can be identified and divided with surgical instruments or laser.

Ex-utero intrapartum treatment (EXIT)

Ex-utero intrapartum treatment, or the “EXIT Procedure,” is a specialized fetal surgery operation that occurs at the time of birth for certain fetuses with rare conditions that may be predicted to have problems immediately after birth. This procedure is performed similar to other fetal surgery operations in that the mother is under general anesthesia.

Fetoscopic laser photocoagulation is the preferred method of treatment for certain severe cases of *twin-twin transfusion syndrome*

Conditions & Treatment

A vast range of conditions can be diagnosed and treated before birth because of the expertise at Apollo Centre for Fetal Medicine.

While most birth defects are best managed with medical therapy during pregnancy or with surgery immediately after birth, an increasing number of anatomic abnormalities can be corrected before birth to reduce some of the life-threatening or devastating consequences of the defect.

Using fetal treatment programs and fetal surgical interventions our experienced team of experts evaluate and treat the following conditions:

Abdominal wall defects

- [Gastroschisis](#)
- [Omphalocele](#)

Amniotic band syndrome

Sheets or strands of the membranes surrounding the fetus (amnion) may be wrapped around parts of the fetus restricting the growth and development of these areas. These bands may wrap around extremities limiting blood flow and resulting in amputation. Other parts of the fetus may also be affected.

CNS lesions

- [Anencephaly](#)
- [Encephalocele](#)
- [Holoprosencephaly](#)
- [Hydrancephaly](#)
- [Hydrocephalus](#)

Congenital airway obstruction (CHAOS)

A condition where the upper airway (larynx or trachea) of the fetus is either absent or blocked. This results in accumulation of fluid in the fetal airway with massively enlarged lungs, a flattened diaphragm and fluid in the abdomen.

Congenital diaphragmatic hernia (CDH)

A defect in the formation of the diaphragm (the muscle that separates the chest from the abdomen) during development, resulting in a hole in the diaphragm that allows passage of abdominal organs into the chest. CDH is typically associated with small, poorly formed lungs.

Craniofacial anomalies

- [Cleft lip](#)
- [Cleft palate](#)

Duodenal and intestinal atresia

- [Duodenal Atresia](#)

Esophageal atresia with tracheoesophageal fistula

Blockage in swallowing tube (esophagus) with or without an abnormal communication with the breathing tube (trachea).

Fetal cardiac conditions

- [Congenital heart block](#)
- [Congenital heart disease](#)
- [Fetal cardiac arrhythmia](#)
- [Hypoplastic left heart syndrome](#)

Fetal chylothorax or hydrothorax

Fetal chylothorax or hydrothorax is a condition in which fluid accumulates in the fetal chest, in the space between the lungs and the chest wall (known as the pleural space).

Giant neck masses

Rarely, a mass may be found on the fetus' neck. Most often this condition is due to problems called either lymphatic malformation or teratoma. In other circumstances, the mass may be a more rare abnormality (such as neuroblastoma, cervical thymic cyst, hemangioma or other lesion).

Lung lesions/CCAM

An abnormality may be detected in the fetus' chest or lung. In some instances the lesion may look like a mass, and in other cases the lesion looks more cystic (containing fluid-filled spaces). Many doctors may use the term "CCAM", which stands for congenital cystic adenomatoid malformation, to refer to many lung masses in the fetus.

Maternal immune disorders affecting the fetus

- [Platelet Alloimmunization](#)
- [Red Cell Alloimmunization](#)

Non-immune hydrops

The term hydrops fetalis, or fetal hydrops, refers to a condition in which the fetus shows signs of fluid accumulation in the body. Hydrops is defined as the presence of abnormal fluid in at least 2 spaces where it is not supposed to be, such as in the abdominal cavity (ascites), chest cavity (pleural effusion), cavity around the heart (pericardial cavity) or in the skin or scalp (referred to as edema).

Sacrococcygeal teratoma

Sacrococcygeal Teratoma (SCT) is a tumor, or growth, on the coccyx (tailbone). It is the most common type of tumor in newborns, occurring in one in 35,000 births. SCT is found more often in girls than boys.

Skeletal dysplasia

There are more than 350 different types of skeletal dysplasia disorders, but it generally means that some or all of the fetal bones are smaller than expected for the fetal age.

Spina bifida (Myelomeningocele)

Myelomeningocele, the most common form of spina bifida, is in a class of problems referred to as open neural tube defects (ONTD). Spina bifida is one of the most common birth defects.

Twin abnormalities

- [Selective Intrauterine Growth Restriction \(sIUGR\)](#)
- [TRAP Sequence \(Acardiac Twin\)](#)
- [Twin-Twin transfusion syndrome \(TTTS\)](#)

- Urinary tract obstructions

- [Bladder outlet obstruction](#)
- [Hydronephrosis](#)

- **Our Approach to Care**

- As one of the India's leaders in the diagnosis and treatment of abnormalities in unborn infants, Apollo Centre for Fetal Medicine is committed to providing the best possible care and outcome for each mother, baby and family. We provide comprehensive care to meet the needs of pregnant women and fetuses in a new model we call family-centered care.
- The core team of Apollo Centre for Fetal Medicine includes fetal surgeons, maternal fetal medicine specialists and specialized coordinators. The Fetal Center's physicians are recognized leaders in fetal medicine and fetal and surgery. As one of only a few centers in North India to provide the full spectrum of fetal therapies, Apollo Centre attracts parents from around the country seeking the ultimate in care for their unborn child.
- We perform fetal interventions, including fetal surgery, in the state-of-the-art operating facilities at Indraprastha Apollo Hospitals. The Fetal Center is committed to responsiveness, with fetal medicine specialists on-call to discuss diagnoses and treatment plans with referring doctors. The Fetal Center is prepared for surgical or medical intervention 7 days a week, year-round.
- Fetoscopic laser photocoagulation is the preferred method of treatment for certain severe cases of *twin-twin transfusion syndrome*

Our Team (Fetal Medicine & Genetics)

Dr Anita Kaul

Clinical Director, Apollo Centre for Fetal Medicine

Diploma in Fetal Medicine (FMF-UK), Diploma in Advanced Obstetric Scanning (London), MS OB-GYN, FRCOG, FICOG

Specialities

Fetal Medicine, In utero Fetal therapy, Lasers, Invasive diagnostic tests, Twins, Prenatal screening for maternal and fetal complications

Dr Smriti Prasad

Attending Consultant, Apollo Centre for Fetal Medicine

Dr Smriti completed her post-graduation in OB-GYN in 2015 from Institute of Post Graduate Medical Education and Research, Kolkata. She worked on the topic of prediction of Preeclampsia using maternal serum biochemical markers during her residency. The “Unborn Patient” fascinates her. She has joined Apollo centre for Fetal Medicine as a Clinical Fellow and is committed to enrich herself working alongside the stalwart as well as contribute to research in the field of maternal fetal medicine.

Fetal and Pediatric Cardiology Team

Dr Manisha Chakrabarti

MD

Case Studies

Prenatal Diagnosis of Fetal Peters' Plus Syndrome: A Case Report

To read the case report click here: www.hindawi.com/crim/genetics/2013/364529 You can also download a PDF version of the Case Report here:...

Antenatally diagnosed fetal meningomyelocele

Mrs.NC 27 years G4P2A1L2 Previous two term vaginal deliveries, uneventful pregnancies, LCB 3 years Presented at 28 weeks for a...

Acardiac Twin

Intra fetal Laser ablation of blood supply to acardiac twin 26 year old primigravida was referred at 18 weeks and...

Bilateral hydronephrosis with ureterocele-a case report

Introduction Ureteroceles associated with a duplex collecting system may lead to obstructive uropathy, the most common genitourinary anomaly of the...

Blog

[Coronavirus \(COVID-19\) Infection in Pregnancy](#)

Information for healthcare professionals...

[A Case of Split Cord Malformation](#)

Mrs X, 29 years of age Primigravida with 18+6weeks period of gestation First trimester combined screening low risk for aneuploidies Referred to ACFM with diastometomelia in an anomaly scan done elsewhere. On USG Introduction Diastematomyelia (also termed diplomyelia, pseudodiplomyelia, dimyelia,...

[Foetal Feat](#)

Care for the unborn gets a boost, thanks to combined expertise of neonatologists, paediatric surgeons and geneticists Diwali arrived early for the Jains—Deepak and Soniya—of Baghat district, Uttar Pradesh. Soniya recently gave birth to their second daughter, and their elder...

[World Prematurity Day](#)

Magnitude of problem Around the world, 15 million babies are born prematurely (Less than 37 completed weeks) every year and one million of these will not survive due to complications of preterm birth. Worldwide 1 in 10 babies are born...

[Optimising Use of Antenatal Corticosteroids for Fetal Lung Maturity](#)

Author: Rachna Gupta It is a well-known fact that antenatal corticosteroids (ACS) reduce perinatal mortality by reducing the incidence of respiratory distress syndrome (RDS) in premature babies (1). Cochrane review 2017 reveals that a single course of ACS significantly reduces the...

[FMF – UK Anomaly Certification – Theory Course and Practical Exam](#)

Date: 29th and 30th April 2017 Venue: Auditorium, Indraprastha Apollo Hospitals, New Delhi The Anomaly scan is considered as the most important scan in pregnancy and it is medico-legally important to perform it to the best of standards, with proper...

New concepts in Maternal Fetal Medicine, a 1 day CME in New Delhi

Apollo Centre for Fetal Medicine in organising a special one day CME to highlight the thoughts and scientific advancements in Maternal Fetal medicine speciality as part of its 10 years celebrations. The highlights of the programme are Contingent screening for...

Do ART pregnancies result in more complications for fetal medicine specialists?

Importance of First trimester screening also known as the combined screening or NT scan

Opt for fetal surgery to correct abnormalities in the womb

Couples should opt for foetal surgeries over pregnancy termination in cases of complexities, experts said here today. “The problem in our country is that we terminate pregnancy very easily. There is a need to educate the obstetrician that if they...

Contact Us

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