



# INDIAN FERTILITY SOCIETY

## SYNAPSES

### NON INVASIVE PRENATAL TESTING

#### Introduction

Fetal genetic testing and aneuploidy diagnosis have required invasive diagnostic sampling procedures which carries a small but significant risk of miscarriage. In 1997 **the presence of cell-free fetal DNA (cffDNA) in the maternal circulation was reported**. Since 2011 it has been introduced in to clinical practice. Fetal DNA comes mainly from the placenta. **It can be detected from the first trimester of pregnancy onwards and is rapidly cleared from the maternal circulation after delivery.**<sup>[1]</sup> Maternal blood is therefore a reliable source of material for prenatal diagnosis. However, the cffDNA is mixed with a larger proportion of maternal cell-free DNA and current methodologies do not allow complete separation of fetal from maternal DNA in vitro. Hence **it remains mainly a screening test with false positives and false negatives**.

The protocols used in sequencing allow detection only when the fetal DNA percentage is at least 4–5%. Recently, DNA sequencing technologies have allowed very precise relative quantification of DNA fragments and so the detection of the fetal aneuploidies can now be performed in a robust manner. **cff DNA screening may be offered anytime from 10 weeks on through the duration of the pregnancy and it is the only screen available in the third trimester.**<sup>[2]</sup> If NIPT indicates a chromosomal abnormality, invasive sampling by chorionic villous sampling or amniocentesis shall be offered.

## Indications

1. Chromosomal abnormalities: Trisomy 21,18,13
2. Fetal sex determination in pregnancies at risk of sex linked diseases
3. Fetal blood grouping in Rh negative mothers

*“The American Congress of Obstetricians and Gynecologists (ACOG) and International Society of Prenatal Diagnosis (ISPD), along with other professional societies, have stated that NIPT is an available screening option for all pregnant women.”* <sup>[3, 4]</sup>

## ACOG guidelines recommend use of NIPT in following circumstance:<sup>[3, 4]</sup>

1. Maternal age  $\geq$  35 years,
2. Increased risk of aneuploidy on ultrasound,
3. Woman with previous pregnancy affected with trisomy,
4. Positive screening test or parental balanced translocation giving increased risk to fetal trisomy.

## Methodologies<sup>[5]</sup>

1. Random multiple parallel sequencing (MPS)/ target sequencing
2. Array based methods
3. Whole genome sequencing/ Next generation sequencing (NGS)

## Advantages<sup>[6]</sup>

- NIPT results are available in **about 1-2 weeks** which allows expectant parents more time for decision-making and potentially offers them more options.
- For trisomy 21 and 18, the detection rates in large series using different technologies have reported **sensitivity and specificity close to 100%**.
- **No miscarriage risk**
- NIPT is preferred in women for whom **fetal testing is desired but invasive testing should be avoided, for example, chronic infection (HIV, hepatitis).**

## Possible sources of error

About **1-8% of pregnant** persons will need to have their blood drawn a second time because the test fails. There are various reasons why a test may fail including technical issues with the sample, or not enough cfDNA from the pregnancy Factors that may result in a low fetal fraction are:

1. Gestational age less than 10 weeks
2. Maternal obesity
3. Multiple pregnancy
4. Placental mosaicism

## Limitations<sup>[6]</sup>

- NIPT is not a diagnostic test. **If NIPT indicates a chromosomal abnormality, invasive sampling by chorionic villous sampling or amniocentesis shall be offered. Management decisions, including termination of pregnancy should not be based on maternal plasma cffDNA results alone.**
- NIPT does not screen for all possible conditions. **A negative NIPT result does not guarantee a healthy baby. NIPT should be preceded by an ultrasound examination in the first trimester and followed by targeted anomaly scan around 18-20 weeks irrespective of the results.**
- Due to a lack of clinical validation, **cffDNA screening is not recognized for microdeletions.**
- **In multiple pregnancies, the scientific evidence for NIPT is still insufficient.** The offer of NIPT in multiple pregnancies should therefore be made after careful consideration.
- As long as the cost for NIPT is high, it is not considered economically feasible to offer NIPT as the first screening method to all who request prenatal testing.

## References

1. Committee Opinion No. 640: Cell-free DNA Screening for Fetal Aneuploidy. *Obstet Gynecol.* 2015;126(3):e31-37.
2. Practice Bulletin No. 163: Screening for Fetal Aneuploidy. *Obstet Gynecol.* 2016;127(5):979-981.
3. Gregg AR, Skotko BG, Benkendorf JL, et al. Noninvasive prenatal screening for fetal aneuploidy, 2016 update: a position statement of the American College of Medical Genetics and Genomics. *Genet Med.* 2016;18(10):1056-1065.
4. Benn P, Borrell A, Chiu RWK, et al. Position statement from the Chromosome Abnormality Screening Committee on behalf of the Board of the International Society for Prenatal Diagnosis. *Prenat Diagn.* 2015;35(8):725-734.
5. Non-invasive Prenatal Testing for Chromosomal Abnormality using Maternal Plasma DNA. Scientific Impact Paper No. 15 Mar 2014. Royal College of Obstetricians & Gynecologists.
6. Audibert F et al. No. 348-Joint SOGC-CCMG Guideline: Update on Prenatal Screening for Fetal Aneuploidy, Fetal Anomalies, and Adverse Pregnancy Outcomes. *J Obstet Gynaecol Can.* 2017 Sep;39(9):805-817. doi: 10.1016/j.jogc.2017.01.032.

**Dr M Gouri Devi**  
President

**Dr Pankaj Talwar**  
Secretary General

### Contributor

**Dr Shikha Jain**  
IVF Consultant

**Dr Rupali**  
IVF Consultant  
Executive Member  
Chief Coordinator  
Synapses - IFS

**Dr Rhythm Ahuja Gupta**  
IVF Consultant  
Co-coordinator  
Synapses - IFS



+91 9667742015  
+91 9899308083



+91 11 40018184



indianfertilitysocietydelhi@gmail.com



www.indianfertilitysociety.org

## IFS SECRETARIAT

302, 3<sup>rd</sup> Floor, Kailash Building  
Kasturba Gandhi Marg, C.P, New Delhi-110001

Organised by



Theme: Beyond Tomorrow

**15th** Annual Congress of  
**Indian Fertility Society**  
**FERTIVISION**  
**2019** 6-8 December  
The Leela Ambience Hotel, Gurugram  
New Delhi | India

**First Announcement**



[www.fertivision2019.com](http://www.fertivision2019.com)

# Invitation

Dear Friends, Welcome to *FERTIVISION 2019*

On behalf of the Indian Fertility Society (IFS), we are extremely pleased to announce and cordially invite you to the much awaited academic event – the **15<sup>th</sup> National Annual Conference - Fertilvision 2019**, to be held on **6<sup>th</sup>, 7<sup>th</sup> & 8<sup>th</sup> December 2019** at Hotel **The Leela Ambience, Gurugram, New Delhi / NCR, India**.

This conference is aimed to provide the most comprehensive academic platform in the field of Infertility and Assisted Reproductive Technology (ART) befitting the theme of the meeting “Beyond Tomorrow”

Renowned and leading expert faculty from around the world would gather and deliver talks in our cutting edge scientific program which will not only enrich your current knowledge and clear all doubts faced in day-to-day clinical practice, but will also enlighten you about the latest innovations and ongoing research.

A large number of renowned international faculties have already confirmed their participations till date. The pre-congress workshops on 6<sup>th</sup> December are specially designed for informal in-depth training with hands on sessions on simulators and live, where ever feasible. There will be 4 simultaneous running streams on 7<sup>th</sup> & 8<sup>th</sup> December covering a wide variety of topics, enabling you to choose the deliberations specific to your area of interest and clinical practice. We are having a dedicated hall for the esteemed embryologist friends.

The best oral and poster presenters under various categories and the quiz winners will be honored with special awards and prizes. Do join us in large numbers and update your knowledge with most updated current standards in clinical practice, as well as get inspired to innovate further to overcome remaining enigmatic issues!

The three days of scientific program will encompass didactic lectures, keynote presentations, panel discussions and orations. There will be 9 Pre-conference workshops based on Ovulation Induction, Ultrasound, Andrology, Embryology, Hands on Embryo Transfer, Ovum Pickup and PGS and more. These workshops will be in addition to the special state of the art workshops by the faculty from IFFS and ESHRE. We expect delegates across India, Sri Lanka, Bangladesh, Nepal, Middle - East Countries and African Nations and the arrangements are being made to accommodate more than 2500 delegates.

The exhibition area will be one of the highlights of the conference. Exhibiting provides tremendous benefits to both participating industry and the society. Tea, coffee and lunch will be served confluent with the trade area to allow optimal interaction between the trade companies and delegates during beverage and lunch breaks.

We invite you to participate in the Fertilvision 2019 and exchange your expertise with more than 2500 specialists in the field of Assisted Reproduction.

We look forward to your active participation and suggestions for successful conduct of the conference.

## With Our Best Regards



**Dr. M Gouri Devi**  
Organizing Chairperson  
FERTIVISION 2019



**Dr. Pankaj Talwar**  
Organizing Secretary  
FERTIVISION 2019

and All Executive Committee of Current IFS team

# Scientific Highlights

1

Fertivision 2019 Would be One of the Most Comprehensive Coverage on "Best Practices, Innovations and Progress in the Field of Infertility and ART" Being Conducted in India.

2

We Promise You Cutting Edge Academic Deliberations Delivered by Leading Renowned Expert Faculty from Around the world befitting the Theme of the Meeting "Beyond tomorrow"

3

In the Conference There Would Be 4 Simultaneous Halls Running with Legendary Faculty in Lead Interacting With You, Covering a Wide Variety of Topics, and Enabling You to Tailor the Program Especially to Your Area of Interest and Clinical Practice. We are Having a Dedicated Hall for the Esteemed Embryologist Friends.

4

Along With the Main Conference We are Having 9 Pre -Congress Workshops on 6th Dec 2019 Pertaining to the Burning Issue in ART.

5

We Welcome You and Offer You This Opportunity to Showcase Your Research Work on a Prestigious National Platform and Enhance Your CV.

6

Scientific Quiz for sharp talented young minds with primary rounds conducted by various IFS Chapters across the country and abroad

7

Several Prizes and Awards for Best Paper, Poster and Quiz winners

8

Enjoy the Evenings With Exciting Social and Cultural Program

9

Sightseeing Tours in and Around Delhi Organized Professionally by Leading Event Management Teams.

10

A Great Opportunity for All of Us to Amalgamate the Most Updated Current Standards in Our Clinical Practice and Look Beyond Tomorrow

Limited Seats

## Choose from 10 Pre Conference Workshops | 6 December

1) <i>IFFS Workshop on Do's and Don'ts in Ovarian Stimulation</i>	7) <i>Total Quality Management</i>
2) <i>Reproductive Surgery</i>	<i>Pre Lunch Workshop (0900 - 1300 Hrs)</i>
3) <i>Ultrasonography Imaging In Infertility</i>	8 A) <i>Holistic Medicine and Patient Counselling</i>
4) <i>Andrology &amp; Semenology</i>	<i>Post Lunch Workshop (1400 - 1700 Hrs )</i>
5) <i>Ovum Pickup and Embryo Transfer (With Simulators)</i>	8 B) <i>Publish or Perish</i>
6) <i>Cryobiology</i>	9) <i>PGT and Genomics</i>

Early Bird Reg. Ends 1st September

## Registration Details

Category	Early Bird Fees Till 1st September 2019		Regular Fees Till 15th October 2019		Onspot	
	IFS Member	INR 10500		INR 12500		INR 14500
Non IFS Member	INR 12500		INR 14500		INR 16500	
Conference Registration plus Life Time IFS Membership	Embryologist	INR 14500	Embryologist	INR 16500	Embryologist	INR 18500
	Gynaecologist	INR 15500	Gynaecologist	INR 17500	Gynaecologist	INR 19500
PG Students (No Dinner)	INR 6000		INR 7000		INR 8000	
Accompanying Person	INR 10500		INR 11500		INR 12500	
Foreign Delegates	\$ 350		\$ 400		\$ 500	

Inclusive of 18% GST

Register at [www.fertivision2019.com](http://www.fertivision2019.com)

# Venue:

**The Leela Ambience Hotel, Gurugram  
New Delhi | India**



**The Leela Ambience Hotel & Residences** is located on the fringe of the Gurgaon Central Business District, fifteen minutes from Delhi's International Airport and thirty minutes from Central Delhi. In addition to 322 contemporary and world class five star deluxe rooms and suites, The Leela Ambience Gurgaon also features 90 residencies (with one, two and three bedroom) fully serviced luxury Residences.

Multi Award winning restaurants include; Multi-cuisine all day dining– Spectra, Italian – Zanotta, cucina Italiana, North Indian – Diya and whisky bar- Rubicon. The "Royal Club" is located on the 6th floor of the Hotel. The Royal Club features are 24 hour butler service, with evening cocktails and a Boardroom.

The 27,000 square feet, beautifully finished convention facilities, meeting and boardrooms were recently awarded the prestigious 5-Star deluxe "Best Luxury Hotel and Conference Centre – India".

This venue has been chosen with a lot of care and thought keeping in mind the comfort and also enjoyment of the delegates when visiting Delhi.

## Conference Secretariat

### **Indian Fertility Society**

302, 3rd Floor, Kailash Building,  
26, Kasturba Gandhi Marg  
C.P, New Delhi - 110001  
+91-9667742015, +91-9899308083  
+91-11-40018184

## Conference Manager

### **Conferences International**

Mr. Sumeet Ghai  
B-220/2, 2nd Floor,  
Opposite Kali Masjid, Savitri Nagar  
New Delhi – 110017  
Mobile: +91 9560493999



**fertivision2019@gmail.com**



# FERTIVISION

# 2019

6-8 December The Leela Ambience Hotel  
Gurugram, New Delhi, NCR | India

## Registration Form

Title Prof/ Dr/ Mr/ Ms \_\_\_\_\_

Gender : Male  Female

First Name \_\_\_\_\_ Last Name \_\_\_\_\_

Institution \_\_\_\_\_ IFS Member No. \_\_\_\_\_

Correspondence Address \_\_\_\_\_

City \_\_\_\_\_ Pin Code \_\_\_\_\_ State \_\_\_\_\_

Mobile No. \_\_\_\_\_ Email \_\_\_\_\_

(All the above fields are mandatory)

Choose from 9 Pre Conference Workshops | 6 December

Choose Any 1 Workshop

Limited Seats

1) <input type="checkbox"/> IFFS Workshop on Do's and Don'ts in Ovarian Stimulation	7) <input type="checkbox"/> Total Quality Management
2) <input type="checkbox"/> Reproductive Surgery	<i>Pre Lunch Workshop (0900 - 1300 Hrs)</i>
3) <input type="checkbox"/> Ultrasonography Imaging In Infertility	8 A) <input type="checkbox"/> Holistic Medicine and Patient Counselling
4) <input type="checkbox"/> Andrology & Semenology	<i>Post Lunch Workshop (1400 - 1700 Hrs )</i>
5) <input type="checkbox"/> Ovum Pickup and Embryo Transfer (With Simulators)	8 B) <input type="checkbox"/> Publish or Perish
6) <input type="checkbox"/> Cryobiology	9) <input type="checkbox"/> PGT and Genomics

## Registration Fees

Inclusive of 18% GST

Please tick the appropriate checkbox

Category	Early Bird Fees Till 1st September 2019	Regular Fees Till 15th October	Onspot
IFS Member	INR 10500 <input type="checkbox"/>	INR 12500 <input type="checkbox"/>	INR 14500 <input type="checkbox"/>
Non IFS Member	INR 12500 <input type="checkbox"/>	INR 14500 <input type="checkbox"/>	INR 16500 <input type="checkbox"/>
Conference Registration plus Life Time IFS Membership	Embryologist INR 14500 <input type="checkbox"/>	Embryologist INR 16500 <input type="checkbox"/>	Embryologist INR 18500 <input type="checkbox"/>
	Gynaecologist INR 15500 <input type="checkbox"/>	Gynaecologist INR 17500 <input type="checkbox"/>	Gynaecologist INR 19500 <input type="checkbox"/>
PG Students (No Dinner)	INR 6000 <input type="checkbox"/>	INR 7000 <input type="checkbox"/>	INR 8000 <input type="checkbox"/>
Accompanying Person	INR 10500 <input type="checkbox"/>	INR 11500 <input type="checkbox"/>	INR 12500 <input type="checkbox"/>
Foreign Delegates	\$ 350 <input type="checkbox"/>	\$ 400 <input type="checkbox"/>	\$ 500 <input type="checkbox"/>

Inclusive of 18% GST

### Conference Registration Fees Includes

### Mode of Payment

- 18 Hrs of World Class Academic Program with Access to Best & Brightest International & National Faculty
- 3 Lunches and 6 Tea / Coffee Served During the Conference on 6, 7 & 8 December
- Banquet Dinner on 7 December
- Conference Kit (Including Bag, Badge, Notepad, Certificate & Pen)
- 1 Pre Conference Workshop
- Accompanying Person is Entitled for Food Coupons Only

1. Bank Draft/Cheque - To be made in favor of "INDIAN FERTILITY SOCIETY"

2. Bank Transfer Details

IFS Account Name : Indian Fertility Society  
Account Number: 50562010067180  
IFSC Code : ORBC0100179  
Bank Name: Oriental Bank of Commerce  
Branch: Connaught place, New Delhi- 110001

### Cancellation Policy

- Cancellation till 31st October, 2019 – 50% Refund.
- Cancellation from 1st November, 2019 – No Refund.
- All refunds will be made after the congress.

Cheque / Draft No. \_\_\_\_\_ Total Amount \_\_\_\_\_

Note: Kindly email us bank deposit slip / UTR number once you made the payment for our record. Payment confirmation will take 7-10 working days post deposit of cheque, DD or RTGS

3. To Register online log on to [www.fertivision2019.com](http://www.fertivision2019.com)

### Congress Manager's

Mr. Vikas Sharma  
Conferences International  
B-220/2, 2nd Floor,  
Opposite Kali Masjid, Savitri Nagar  
New Delhi – 110017  
M: +91-9560493999  
Email: fertivision2019@gmail.com







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- Trainings
- AMC & After Sales Support

**For any query or information please contact us at:**

**Mobile: +91 9891470707**

**Email: [biocellenterprise@gmail.com](mailto:biocellenterprise@gmail.com)**