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Towards a Better
Health

Empowering
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Improving Lives,
Developing
Nation

JITM
Diagnostics
by JITM Skills Pvt. Ltd

OBSTETRICS & GYNECOLOGY

SPECIAL OFFERING FOR INFERTILITY & IVF

INDIA'S LEADING LABORATORY NETWORK

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PRENATAL TESTING

ANTI- MULLERIAN HORMONE (AMH)

- Assesses ovarian status including follicle development, ovarian reserve and ovarian responsiveness as part of evaluation of infertility.
- Assesses menopausal status, including premature ovarian failure.
- Used as surrogate marker of ovarian function in patients with PCOD.
- Assesses testicular function in infants and children.

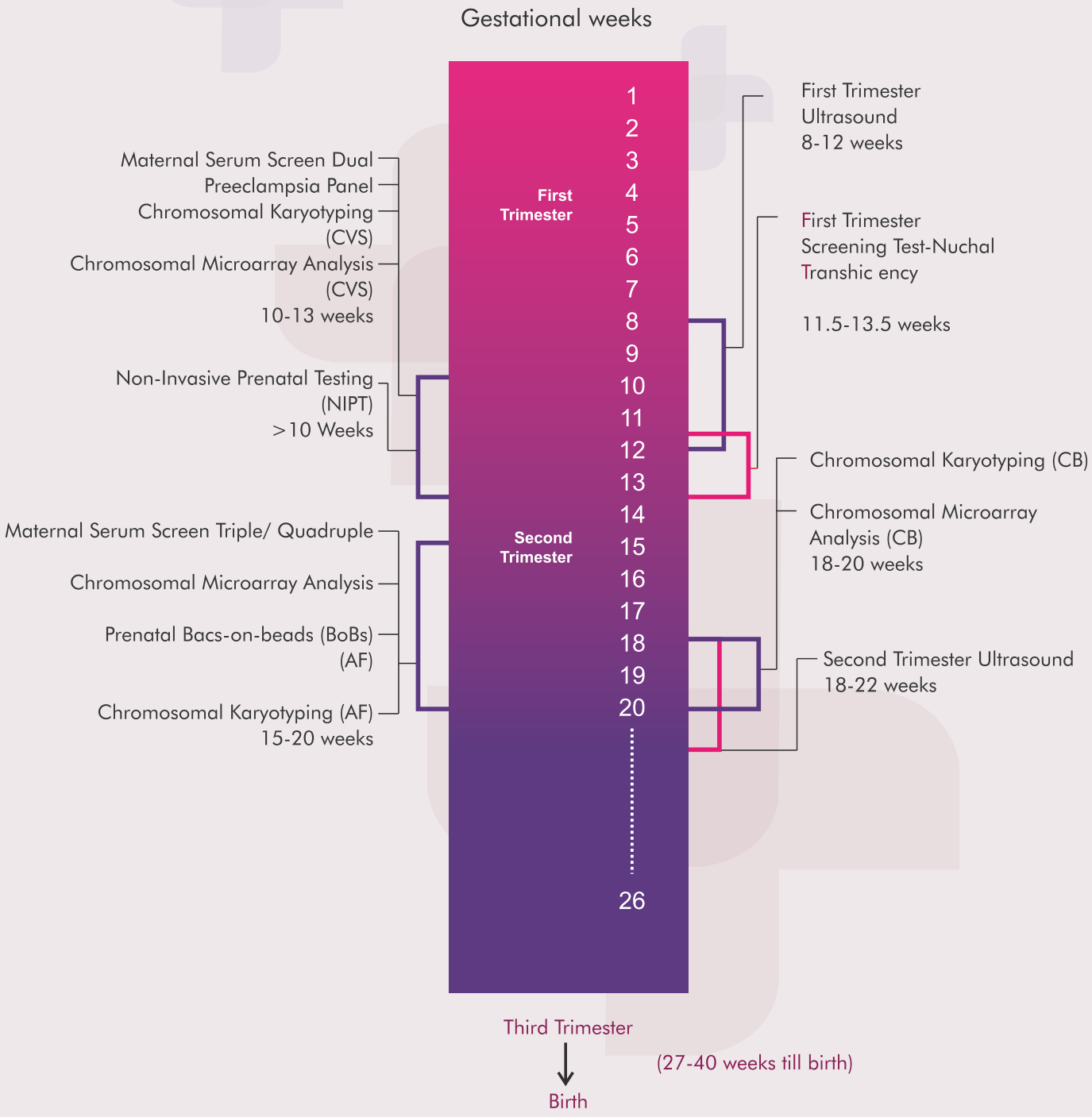
Also Available: LH, FSH, Prolactin, Estradiol, Progesterone & Testosterone

Hb HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)

- Appropriate approach for the screening and presumptive identification of haemoglobinopathies.
- It including hemoglobin A1 (HbA1), Hemoglobin A2 (HbA2), Hemoglobin F (HbF : Fetal Hemoglobin), Hemoglobin C (HbC) & Hemoglobin S (HbS).
- Hemoglobin (Hgb) A - The most common type of Hemoglobin is found in unborn babies & newborns. HbF is replaced by HgbA shortly of his birth if levels of HgbA or HgbF are too high or Low, it can indicated certain types of Anemia.
- Abnormal types of hemoglobin include.
- Hemoglobin (Hgb)S. This type of hemoglobin is found in sickle cell disease, sickle cell disease is an inherited-disorder that causes the body to make stiff, sickle shaped red blood cells.
- Hemoglobin (Hgb) C. This type of hemoglobin does not Carry Oxygen well. It can cause a mild form of Anemia.

Prenatal Testing Timeline

Last Menstrual Period (LMP)



CVS : Chorionic Villus Sampling
AF : Amniotic Fluid
CB : Cord Blood

Maternal Screening Approaches: 1st & 2nd Trimester:

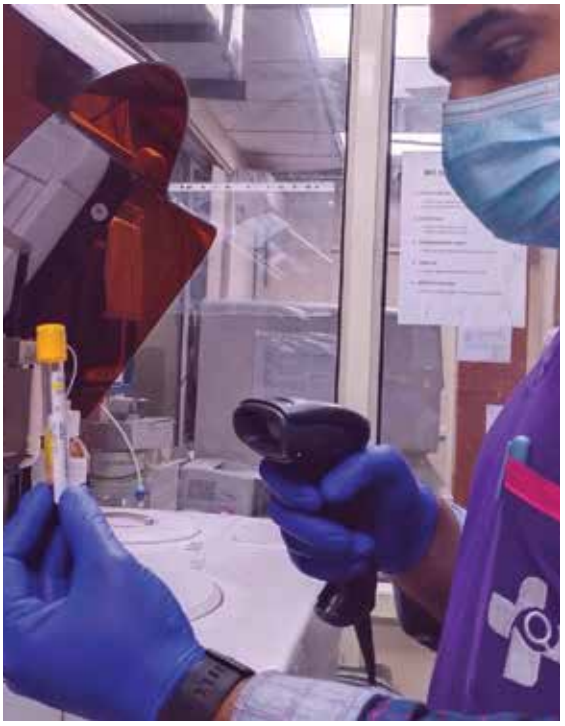
S.No	TEST	PARAMETERS	IDEAL TIME
1	Dual test	Free Beta- hCG, PAPP-A	A ldeal me for combined risk 11-13 weeks
2	Triple Test	AFP, Unconjugated Estriol (uE3),Beta- hCG	Offered Time 14- 22 weeks Ideal Time- 15- 20 weeks
3	Quadruple Test	AFP, Unconjugated Estriol (uE3), [Beta-hCG, Inhibin A	Offered Time 14- 22 weeks Ideal Time- 15- 20 weeks

DOUBLE MARKER TEST BY CLIA (FIRST TRIMESTER)

- Non-invasive blood test, for prenatal screening for Down syndrome (Trisomy 21), Edward's Syndrome (Trisomy 18) , Patau Syndrome (Trisomy-13)
- Ideal time for combined risk assessment is 11-13 weeks
- Increased total HCG levels are associated with an increased risk for Down Syndrome
- Low PAPP-A levels before the 14th week of gestation are associated with an increased risk for Down Syndrome (Trisomy 21) Edward's Syndrome (Trisomy 18) + Patau Syndrome (Trisomy-13)
- Provides comprehensive reporting with graphs for better understanding
- The NT (Nuchal Translucency), an ultrasound marker is important component for combined trisomy 21 risk assessment

TRIPLE MARKER TEST BY CLIA (SECOND TRIMESTER)

- Test measures AFP, Unconjugated Estriol, Beta -HCG
- Second trimester screening test for Down's Syndrome, Trisomy 13, 18 & open Neural Tube Defects
- Ideal time for triple marker is 15- 20 weeks

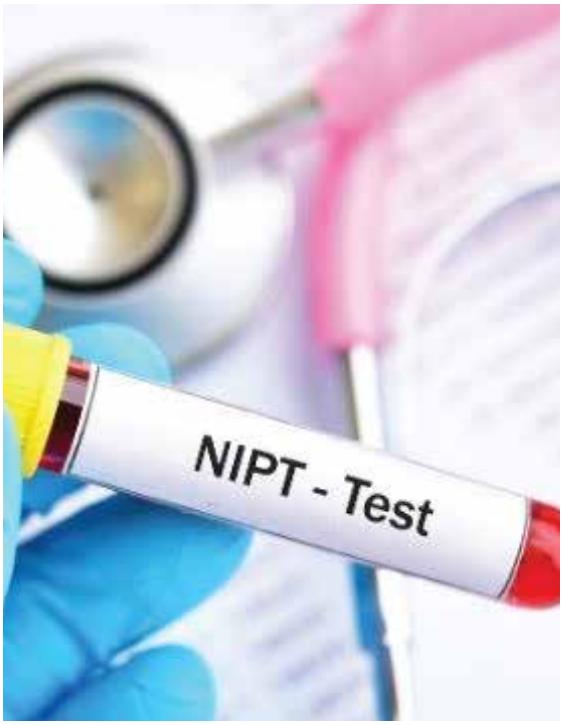


QUADRUPLE MARKER TEST BY CLIA (SECOND TRIMESTER)

- Test measures levels of Alpha-fetoproteins (AFP), Human Chorionic Gonadotropins (hCG), unconjugated Estriol (uE3) & Inhibin A in pregnant women
- Ideal time for quadruple marker is 15-20 weeks.
- Has increased sensitivity

NON- INVASIVE PRENATAL TESTING (NIPT)

- Non-incasive prenatal testing (NIPT) is a method of determining the risk that the foetus/baby may be born with certain genetic abnormalities
- Preformed on peripheral blood sample of the pregnant women
- Sensitivity is > 99% a false positive rate of < 0.05%
- ACOG recommends prenatal aneuploidy screening for all pregnant ladies of age or other risk factors
- ACOG (American College of Obstetricians & Gynecologists)



Non Invasive Prenatal Testing (NIPT)

Specimen

Whole blood

Patient Selection

Maternal age > 35 years

Increased risk for aneuploidy in fetal ultrasound/maternal serum screen

Personal or family history of a prior pregnancy with a trisomy

TAT

15 days

Technology

Next Generation Sequencing

Trisomy 13, 18, 21

Detection rate > 99%

Sex Aneuploidies

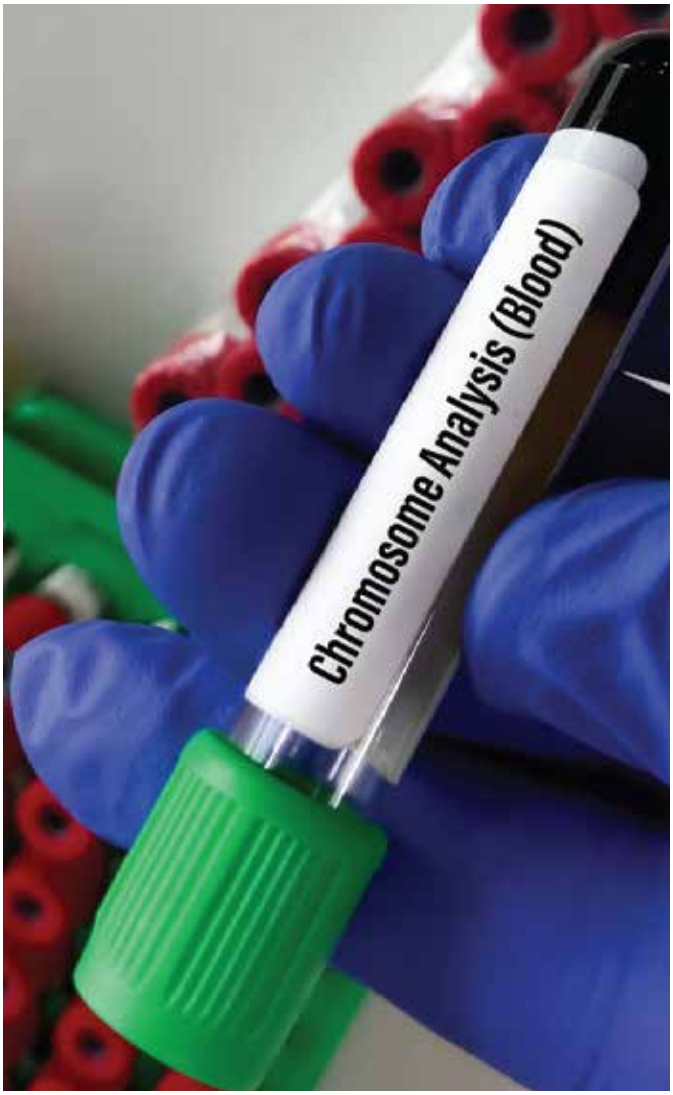
Triple X Syndrome (47,XXX), Turner Syndrome (45X), Klinefelter Syndrome (14, XXY), Jacobs Syndrome

Microdeletions

DiGeorge Syndrome, 1p36 Deletion Syndrome, Angelman/Prader-Willi (15p11,2), Cri-du-Chat Syndrome (5P-), Wolf-Hirschhorn Syndrome (4P-)
Detection Rate 60-84 %

Genome wide assessment of other chromosomes

Valid for singleton and twin pregnancies



CHROMOSOMAL ANALYSIS

CHROMOSOME ANALYSIS (GENETIC ABNORMALITIES)

- Identify chromosomal rearrangements in couples with recurren pregnancy loss
- The most common condition in these couples is balanced translocation, meaning parts of the chromosomes are rearranged

CHROMOSOME ANALYSIS (POC) Product of Conception

- Diagnose chromosomal causes of fetal death and determine recurrence risk for future pregnancy losses
- Chromosomal abnormalities may result in malformed fetuses, spontaneous abortions or neonatal deaths

KARYOTYPING (AMNIOTIC FLUID)

- Examine chromosomes in a sample of cells, which can help identify genetic problems as the cause of a disorder
- Count the number of chromosomes
- Look for structural changes in chromosomes

TUBERCULOSIS

AFB CULTURE- AUTOMATED MGIT

- Gold standard reference test for TB diagnosis & patient management
- Automated culture provides early detection of mycobacterium as compared to conventional culture
- Offers better isolation of tubercle bacilli as compared to conventional solid cultures

TB DETECTION BY REAL TIME PCR

- Detects both Mycobacterium Tuberculosis Complex (MTC) and Non-Tuberculous Mycobacteria NTM (not species)
- Targeted genes (IS 6110, MPB64, 16 srRNA)T

QUANTIFERON TB GOLD

- Interferon Gamma Release Assay (IGRA) based test to detect latent tuberculosis infection.
- Not affected by prior BCG inoculation
- Simple blood test and single visit required as compared to tuberculin skin test.

GENEXPERT for MTB (CBNAAT - Cartridge Based Nucleic Acid Amplification Test)

- Genexpert test is a highly sensitive & specific test for tuberculosis (TB) diagnosis that detects DNA sequence specific for Mycobacterium tuberculosis & rifampicin resistance.
- GeneXpert test is highly sensitive comparatively AFB Stain & Culture of MTB. AFB positive load should be in sample 10000 bacteria /ml, in culture 10-100 whereas in gene Xpart only 1-10.
- Time is taken to mycobacterium culture 2-6 weeks & needs 3 weeks extra for drug resistance test that is minimized in this and dispatch the report next days.

GYNAE-ONCOLOGY

CERVICAL SCREENING

- Conventional PAP Smear
- Liquid Based Cytology (LBC)
- HPV Genotyping
- HPV DNA PCR + LBC combo
- Human Papilloma Virus DNA by
- PCR (High/Low Risk)
- Histopathology.

OVARIAN SCREENING

- HE4
- CA-125
- Breast Screening
- CA 15.3
- FNAC
- HistoPathology

GENETIC TESTING

BRCA- 1 & 2 Testing

1. The reporting will be done as per ACMG (American College of Medical Genetics) guidelines.
2. The test is based on sequencing of all the exons (in both directions) as well as highly conserved intron-exon splice junctions.
3. Detect the mutations whether they were reported in the past or not.
4. The report classifies variants based on Cento med and ACMG recommendations.
5. Cited for specific variations described and the clinician can check this reference easily
6. The report indicates the reference sequence and version number for example NM _007294.3

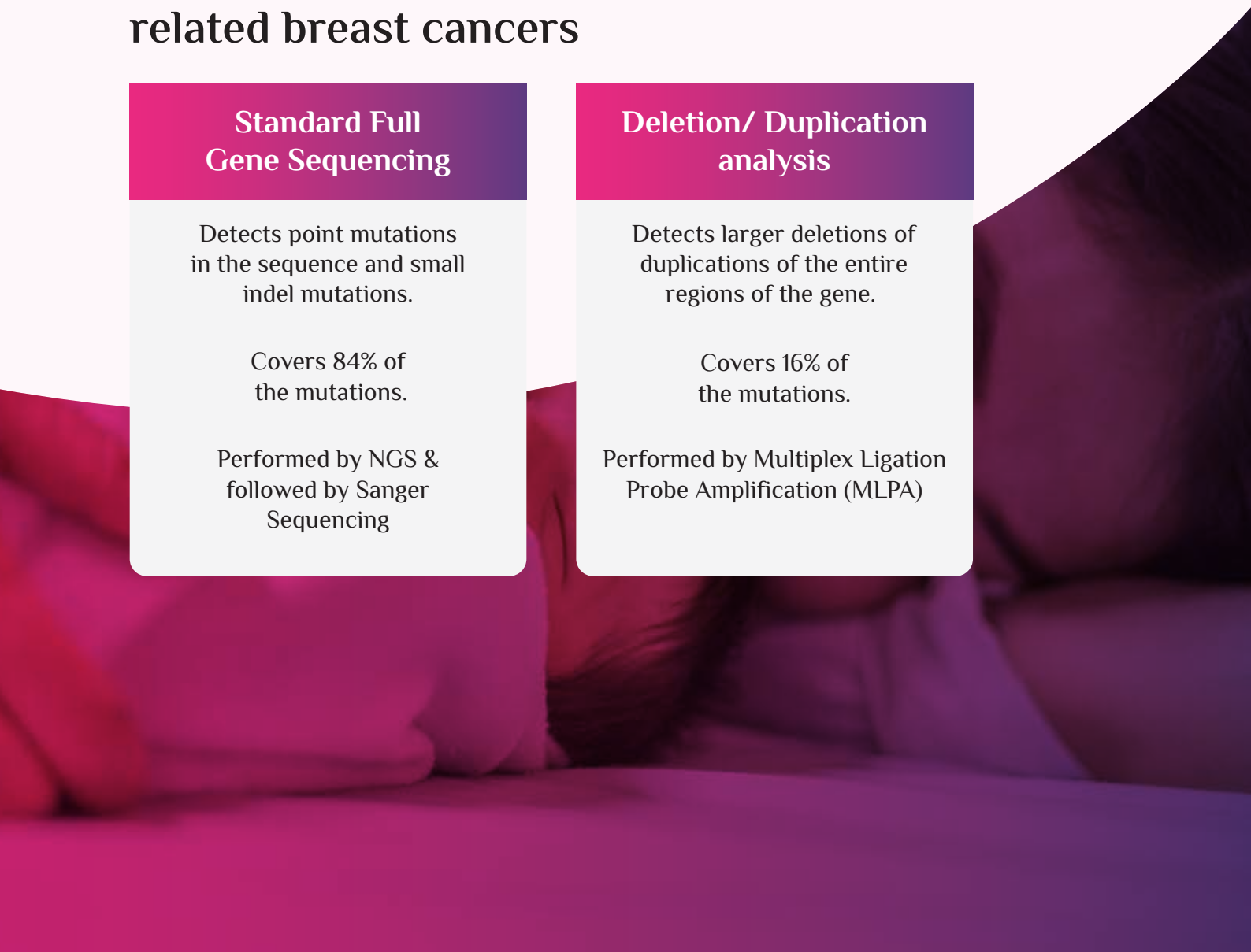
GENETIC BREAST & OVARIAN CANCER TESTING

Highlights of the test:

- Identifies mutations in BRCA 1/2 gene leading to hereditary breast cancer
- Based on the American College of Medical Genetics and Genomics (ACMG) recommendations for interpretation and reporting.
- Sequencing for all the exons of both DNA strands.
- Performed by Next Generation Sequencing (NGS) followed by Sanger Sequencing for confirmation of results.
- Large database with more than 11,000 mutations.
- Sensitivity up to 99.8%.
- Genetic Counsellor on board.

Types of mutations identified in BRCA related breast cancers

Standard Full Gene Sequencing	Deletion/ Duplication analysis
Detects point mutations in the sequence and small indel mutations. Covers 84% of the mutations. Performed by NGS & followed by Sanger Sequencing	Detects larger deletions of duplications of the entire regions of the gene. Covers 16% of the mutations. Performed by Multiplex Ligation Probe Amplification (MLPA)



HORMONAL SCREENING TESTS

- LH, FSH, Prolactin
- Estradiol (E2)
- T3/T4/TSH
- Progesterone
- AMH (Anti-Mullerian Hormone)
- Testosterone
- hCG (Human Chorionic Gonadotropins)
- Inhibin A/B

POLYCYSTIC OVARIAN DISORDER (PCOD)

- FSH (Follicular Stimulating Hormone)
- LH (Luteinizing Hormone)
- Prolactin
- Insulin Fasting
- Blood Glucose
- Lipid Profile
- 17 OH Progesterone
- Free Thyroid Profile
- DHEAS

BOH (BAD OBSTETRIC HISTORY)

- CBC
- Hb Electrophoresis by HPLC
- Urine Routine
- HbA1C
- Thrombophilia Profile
- Karyotyping (Male & Female)
- Chromosomal analysis (POC)
- Anti-Cardiolipin Antibody
- Anti- Phospholipid Antibody Screen
- Glycoproteins
- Lupus Anticoagulant / DRVVT

THROMBOPHILIA TESTS

- Protein C-Functional
- Protein S-Functional
- Anti-thrombin III Functional
- Pro Thrombin Gene Mutation
- MTHFR Mutation
- Factor V Leiden Mutation
- Anti- Beta 2 glycoprotein
- Homocysteine
- Partial Thromboplastin Time (PTT)
- Lupus Anticoagulant /DRVVT

ANTENATAL SCREENING TESTS

- CBC
- Blood Group-A, B, 0 & Rh Factor
- VDRL (RPR)
- Urine R/M
- Glucose Fasting/Random
- HIV 1& 2 Qualitative
- HBsAg Qualitative
- HCV Qualitative
- TSH

PRENATAL SCREENING TESTS

- Dual Test
- Triple test
- Quadruple Test
- Hb Electrophoresis by HPLC

TUBERCULOSIS TESTS

- TB Culture and Staining
- Histopathology
- GeneXpert for MTB
- TB PCR
- Quantiferon TB Gold

GYNE-ONCOLOGY TESTS

- Conventional PAP Smear
- LBC (Liquid Based Cytology)
- Histopathology
- LBC+ HPV
- HPV Genotyping
- HPV DNA HR & LR
- ROMA Value (HE4 + CA125)
- CA 125
- CA 15.3

NEONATAL SCREENING TESTS

- Newborn Screening Metabolic
- screen (Basic)-4 conditions
- Metabolic screen-7/11 conditions
- Metabolic screen 111/119 conditions urine

AUTOIMMUNE DISORDER TESTS

- Anti-Nuclear Antibody (ANA)
- Anti-Neutrophilic Cytoplasmic Antibodies (ANCA)
- Anti-Mitochondrial Antibody (AMA)
- ASMA (Anti-Smooth Muscle Antibodies)
- Anti - ds DNA
- HLA B27 by PCR

GENETIC TESTS

- BRCA 1 & 2

TORCH IgG & IgM

- Toxoplasma Antibody
- Rubella (German Measles) - Antibody
- Herpes Simplex Virus I & II Cytomegalovirus (CMV) Antibody

INFERTILITY TESTS (FEMALE)

- Hormone Test (AMH, FSH, LH, E2, Prolactin)
- Hb HPLC, Hemogram
- Thyroid Profile Free
- Viral markers (HIV I & II HBsAg, Anti HCV)

INFERTILITY TESTS (MALE)

- Semen Analysis, Culture & Sensitivity
- Testosterone
- Sperm Fragmentation

PACKAGES AVAILABLE

PACKAGE NAME	COMPONENTS
Antenatal Screening Profile (Basic)	CBC, Blood Group-A, B, 0 & Rh Factor, VDRL (RPR), Glucose Fasting, HIV-1&2, Anti HCV, HBsAg.
Antenatal Screening Profile (Comprehensive)	CBC, Blood Group-A, B, 0 & Rh Factor, VDRL (RPR), Urine R/M, Glucose Fasting, HIV 1 & 2 Qualitave, HBsAg Qualitave, TSH, HB electrophoresis (HPLC)
BOH (BAD OBSTETRIC HISTORY) Panel	Torch IgM Anbodies, Torch IgG Anbodies, TSH, Anti- nuclear antibody, Anti Phospholipid IgG & IgM , Anti Cardiolipin IgG & IgM, Lupus Anticoagulant
Polycystic Ovarian Disorder (PCOD) Profile	FSH, LH, Prolactin, Testosterone Total, DHEA-S Insulin Fasting, Blood Glucose, TSH, HBA1c
PCOD Profile Extended	FSH, LH, Prolactin, 17-OH Progesterone, DHEA Sulphate, Thyroid Profile Free, Lipid profile, Glucose (fasting),
Thrombophilia Profile	Activity & Antigen of Protein C, Protein S, Anti thrombin III, APCR, Lupus, Homocysteine, APP (IgG/IgM), ACA IgG/IgM)
Thalassemia Profile	CBC, Serum Iron, TIBC (Total Iron Binding Capacity), % Transferrin saturation, Serum Ferritin, Hb Electrophoresis by HPLC
JITM Health Package Advance	CBC, HbAlc, Blood Glucose (Fasting), Kidney Function Test (KFT) Liver Function Test (LFT), Lipid Profile , Vitamins: Vitamin D (25 OH) & Vitamin B12, Thyroid Profile Total: T3, T4, TSH, Calcium, Urine examination (Routine & Microscopic)
Cancer Marker Profile of Female	CA-125, CA-15-3, CA-19.9, CEA, AFP, Beta HCG

Tests Available

S.no	Test Name	Method	Sample Requirement
1.	Thrombophilia Pane- Basic (Lupus Anticoagulant, Activity of Protein C, Protein S, at III and APCR, ACA-IgG/Igm)	Coagulation, Clotting, Automatic Coagulation	3-5 ml serum, citrated plasma
2.	Chromosome Analysis	Culture, Microscopy, Karyotype	AF: 20 ml (15 mi min.) in a sterile screw-capped container, Ship refrigerated immediately. CB: 4 ml min.) 1 green top (sodium heparin) tube. CVS: 40 mg (20 mg min.) collected specially in 10 ml transport medium available form lab.
3.	NIPT Advanced Trisomy (13, 18, 21 sex anuploidies, other chromosomes)	Next Generation Sequencing	10 ml whole blood in streck tubes
4.	JITM NIPT Basic (Trisomy, 13, 18, 21, sex anuploidies)	Next Generation Sequencing	10 ml whole blood in streck tubes
5.	Preeclampsia Panel (Free beta HCG, Pregnancy Associated plasma protein a (PAPPA), serum, Placental Growth Factor (PLGF)	Enzyme-Linked Immunosorbent Assay (ECLIA)	3 ml (1.5 ml min.) serum in 1 SST Ship refrigerated or frozen. Provide maternal date of birth (dd/mm/yy); height, weight, IVF, smoking, history of blood pressure, diabetes and preeclampsia in previous pregnancy, previous h/o trisomy birth, blood pressure measurement for right & left arm; USG report between 11-13 weeks gestation including CRL, NT & nasal bone, number of fetuses, uterine artery PI in maternal serum screen form (form 11) & preeclampsia screen request form (form 13.)
6.	BoBs (Aneuplodies + Microdeletions + Karyotyping)	BACs-on-Beads+ Karotyping	AF: 20 ml (15ml min.) in a sterile screw-capped container Ship refrigerated immediately. CVS: 40 mg (20 mg min.) collected specially in 10 ml transport medium available form lab. POC: Submit 5 mg (2 mg. min) placental tissue facia lata/diaphragm/tendon/slin/ssue form internal organs (if tresh/chest wall carlage parcularly if macerated) in normal saline/10% formalin, Ship refrigerated. Do not freeze

POC: Product of conception (POC) AF: Amniotic fluid CB: Cord Blood CVS: Chorionic villus sampling

AF/CB/CVS: Chorionic villus sampling should reach lab within 24 hours. Sample to be collected under strict a septic precautions in 15-20 weeks of gestation for AF, 10-13 weeks for CVS, 18-20 weeks for CB. Prenatal consent form is mandatory for all the above test.

The TAT mentioned is calculated as per working days of the lab and will be from the date of accessioning of the sample in the lab.

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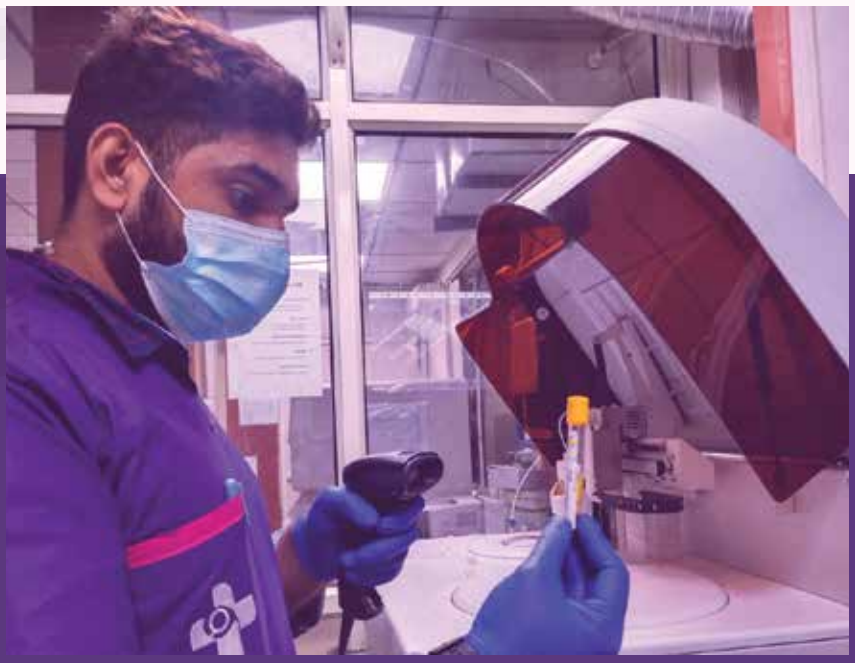
JITM DIAGNOSTICS represents meticulous pathology services and clinical labs in India. They include sample handling at various levels (Supply Chain), sample processing, sample analysis, reporting of test results, handling and delivery of test reports to customer & doctors.



Get in touch!

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