

## WELCOME

This pamphlet is specially designed to provide you with information regarding your appointment for Antenatal Diagnostic Ultrasound examination. We hope this information will help to make your visit to our Antenatal Diagnostic Centre a pleasant one.



## ANTENATAL DIAGNOSTIC CENTRE & WELL WOMEN CLINIC

Antenatal Diagnostic Center & Well Women Clinic located at Camden Medical Centre specializes in prenatal diagnosis. Prenatal diagnosis is a process of determining whether the fetus has any detectable impairment.

Currently there are more than 300 different disorders that can be detected during pregnancy. Some of these are chromosomal abnormalities such as Down's Syndrome, while others are genetic disorders such as Thalassaemia. All these disorders may be diagnosed by examining fetal cells collected through amniocentesis, chorionic villus sampling or fetal blood sampling. The most common defect is that of a structural malformation. Most structural defects can be detected prenatally with the use of Ultrasound.

The sex of the fetus can also be determined prenatally. This is important if there is a risk of an X-linked hereditary disease like muscular

dystrophy or haemophilia. In most cases it can be determined whether a male fetus is affected with either of these disorders.

Prenatal diagnosis is available if there are indications or suspected abnormalities based on family history, maternal age or other genetic risks.



## PRENATAL AND WELL-WOMEN CARE

Prenatal and women welfare counseling are available in our Centre, where we advise couple on prenatal diagnosis and women of the importance of screening for cervical, breast and ovarian cancer. Contraceptive and hormone replacement therapy is also provided.

## PRENATAL DIAGNOSTIC SERVICES

The procedure uses ULTRASOUND modality, a technique where, a high frequency soundwave is used to create a picture of the fetus on a television screen. The results of many well respected studies have shown no ill effects of these sound waves on the fetus or the mother.

From the Ultrasound image, measurements of the fetus are made, to determine, what week of the pregnancy the fetus is in. All major birth defects can also be detected.

A special type of Ultrasound procedure (Fetal echocardiography) provides images of the heart. This should be done in two stages, firstly at 14 weeks and again at 23 weeks for all patients.

## EARLY ULTRASOUND (Nuchal translucency)

An early Ultrasound examination is offered from 12 through 14 weeks gestation to measure the width of the tissue filled space behind the fetus's neck and to assess 85 to 95% of organs of the fetus. This measurement is used as a screening test to assess the risk for certain chromosomal abnormalities, such as Down's Syndrome. Because it is only a screen, an abnormal result simply means there is higher than normal chance for chromosomal problem (eg Down's Syndrome). Further testing (eg Amniocentesis etc) is required to make the specific diagnosis.



## GENETIC ULTRASOUND

Involves screening of the fetus at 10-12 weeks, 14-16wks and 22-23 wks of pregnancy. This detailed scan is looking for physical defects as well as for chromosomal markers (such as Down's Syndrome). Majority of all major defects can be diagnosed with high level Ultrasound scanning. If the scan is normal, then the risk of Down's Syndrome is decreased by 85% to less than 0.1%.

## ULTRASOUND GUIDED INVASIVE PROCEDURES

The diagnosis of chromosomal aberrations, for example Down's Syndrome and genetic diseases such as Thalassaemia can not be excluded by Ultrasound alone and require the most appropriate of the following procedures for detection.

Ultrasound is used with all the invasive procedures to find the best location for sampling and for guidance of the instruments needed for the collection of the fetal cells.

NB: Before any of these procedures are performed, our in house physician will obtain a complete family history and thoroughly explain the procedure and laboratory tests to the patient and family. There is ample time to discuss your questions and concerns.

### 1. Amniocentesis

This involves extracting a small amount of the fluid surrounding the baby by directing a very fine needle into the amniotic sac under Ultrasound guidance. The cells within the fluid are analysed in the laboratory to diagnose chromosomal or genetic malformations. The extraction of the fluid is a very simple procedure and in expert hands carries a complication rate of around 0.2-0.3 percent only. The time taken to obtain the results varies from 10-12 days. With a technique called FISH, 90-95% of the most common chromosomal aberrations can be excluded within 24-48 hours. Amniocentesis is traditionally carried out between 14 - 21 weeks of gestation.

### 2. Chorionic Villus Sampling

This procedure is performed from 11-14 weeks. It involves taking fetal cells from the placenta by introducing a fine needle into the placenta either via the cervical canal or through the maternal abdomen all with Ultrasound guidance. The cells are then sent to the laboratory for analysis. Chorionic villus sampling is the procedure of choice for prenatal diagnosis of a genetic disease (eg Thalassaemia). Even though it can be used for prenatal diagnosis of chromosomal aberrations it is less reliable than amniotic fluid analysis for chromosomal aberrations (Down's Syndrome). The complication rate in expert hands, is around 1.2 percent.

### 3. Fetal Blood Sampling

This procedure involves obtaining fetal cells from the fetal blood. The procedure is done from 20 weeks onwards and involves obtaining fetal blood from the umbilical cord vessels, or from the left portal vein of the fetus, by introducing a fine needle through the maternal abdomen under Ultrasound guidance. This procedure requires a high level of skill and experience. This fetal loss rate is around 1.2-2 percent

### 4. Fetal Tissue Biopsy

Similar to fetal blood sampling, it involves sampling the fetal tissue to diagnose certain genetic diseases, which is also done under ultrasound guidance.

### WHO SHOULD HAVE PRENATAL DIAGNOSIS?

Prenatal genetic counseling and diagnosis is generally recommended for the following groups of women:

1. Women who will be 35 years of age or over at the time of delivery (the risk of chromosomal defects increases after the age of 35)
2. Women who have had or whose partners have had a previous child with a chromosomal defect.
3. Women who are carriers or whose partners are carriers of a known chromosomal disorder.
4. Women who are carriers of X-linked diseases such as haemophilia and muscular dystrophy.
5. Women who are carriers and or whose partners are carriers of a single gene disorder which can be detected prenatally.
6. Women who are at high risk due to an abnormal maternal serum (blood test) alpha feta protein screen.
7. Women who have been exposed to dangerous substances during current pregnancy.
8. Women who are at high risk due to an abnormal finding on an ultrasound examination.

### ASSESSMENT OF THE HEALTH OF THE UNBORN BABY

The assessment of the growth of the unborn fetus is most accurately performed by the use of Ultrasound.

Our Center provides:

- a. Assessment of fetal growth with detailed Doppler studies.
- b. Monitoring of the fetus with antenatal cardiotocography.
- c. Antenatal cardiotocography with FAST and amniotic fluid assessment.
- d. Biophysical profile.
- e. Detailed fetal cardiac Doppler and M-mode studies.
- f. Intrauterine fetal therapy and surgery.

### WELL-WOMEN CLINIC

In addition our Center also provides:

- a. Clinical assessment and counseling in obstetrics and gynaecology, including IVF
- b. Pap smear for screening for cervical cancer.
- c. Pelvic Ultrasound with Doppler assessment for ovarian cancer.
- d. Mammography.
- e. Hysteroscopy with 3D to assess congenital uterine malformations, other uterine pathology such as endometrial polyps and patency of the fallopian tubes.
- f. Transvaginal Ultrasound guided cyst aspiration.
- g. Insertion of IUCD for contraception.
- h. Hormone replacement therapy for menopause.

### POINTS TO NOTE

- \* Please allow approximately 45 minutes for your visit to our Antenatal Diagnostic Center and Well Women Clinic.
- \* If you are unable to keep the appointment, please notify us as soon as possible so that an alternative appointment can be scheduled.
- \* Please be punctual for the appointment in order to minimise waiting time.

### WHERE WILL ANTENATAL DIAGNOSTIC ULTRASOUND EXAMINATION BE PERFORMED?

The Antenatal Diagnostic Ultrasound examination will be performed at:

Antenatal Diagnostic Centre  
And Well Women Clinic  
One Orchard Boulevard,  
Camden Medical Centre, #06 - 07/08  
Singapore 248649



#### Bus services.

- nearest MRT, Orchard MRT
- A 75
  - B 7, 105, 111, 123, 132, 174, 75, 77, 106, 502
  - C 7, 105, 123, 174, 75, 77, 106, 502
  - D 7, 105, 123, 174, 75, 77, 106, 502

#### Free shuttle service

Pick-up point:  
Gleneagle Hospital, Mt. Elizabeth Hospital,  
Orchard MRT & Camden Medical Center.

For appointment and queries, please feel free to contact us at :

Tel: 65 - 6333 8621 Fax: 65 - 6333 8619  
24 Hours Emergency Tel: 6535 8833

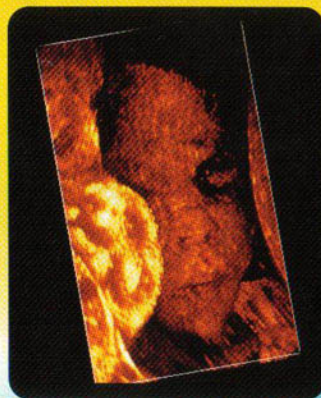
#### Operating Hours:

Monday - Friday : 8.30am - 5.00pm  
Saturday : 8.30am - 1.00pm

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PRIVATE LIMITED

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CENTER  
AND  
WELL WOMEN  
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