

IN X-RAY



CHAPTER 17 DIAGNOSTIC TESTS

1. CAT SCAN
2. MRI
3. CARDIAC STRESS TEST
4. ULTRASOUND
5. EYE EXAM
6. ANGIOGRAPHY



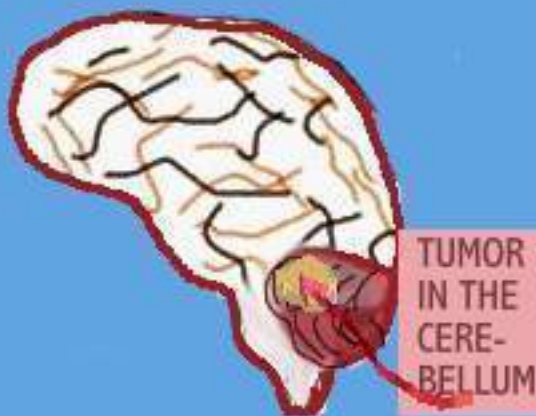
DIAGNOSTIC TESTS- CT SCAN(COMPUTED TOMOGRAPHY)



TOM WAS ADMITTED WITH COMPLAINTS OF POOR COORDINATOR. HE HAS BEEN HAVING DIFFICULTY WITH WALKING AND PICKING UP HIS GLASSES OR OTHER OBJECTS.HE IS SCHEDULED FOR A CT SCAN.



TOM'S NURSE REASSURES HIM AND EXPLAINS TO HIM WHAT TO EXPECT.



COMPUTED TOMOGRAPHY

A TYPE OF X-RAYS USED TO SCAN BODY PARTS IN DETAIL. CONTRAST DYE MAY OR MAY NOT BE USED.

CONTRAST DYE MAY BE GIVEN ORALLY OR IV.



PATIENT EDUCATION

EXPLAIN PROCEDURE TO PATIENT AND HAVE CONSENT SIGNED PER MD ORDER.

IN X-RAY
FOR CT

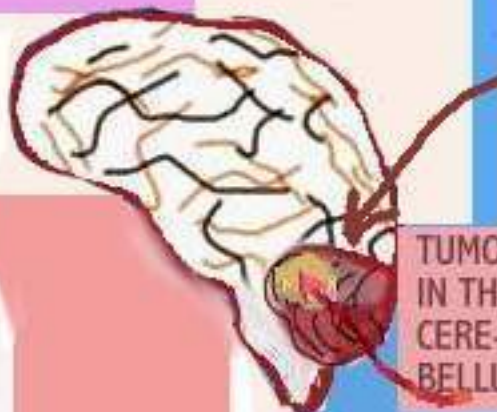


TOM'S DOCTOR ORDERED
A CT SCAN , WHICH WILL
BE DONE IN A SPECIAL
DEPARTMENT.

CT SCAN IS ALSO KNOWN AS
CAT SCAN (COMPUTERIZED
AXIAL TOMOGRAPHY).
X-RAY IMAGES OF THE BODY
PART/ PARTS ARE DONE IN
SLICES AND RECORDED ON
FILM. THE DOCTOR THEN
VIEWS THE SCAN AND MAKES
A CONFIRMED DIAGNOSIS.



TOM IS GIVEN THE NEWS AND
THE POSSIBILITY OF SURGERY
TO REMOVE THE TUMOR IS
EXPRESSED.



TUMOR
IN THE
CERE-
BELLUM

FILM OF CAT SCAN



MR.N VISITS HIS DOCTOR WITH COMPLAINTS OF HEADACHE AT THE BACK OF THE HEAD AND PINS AND NEEDLES IN HIS HANDS.

SYMPTOMS OF ARNOLD-CHIARI INCLUDE:

- HEADACHE IN THE BACK OF THE HEAD OR NECK, WHICH MAY BE AGGRAVATED BY COUGHING, SNEEZING OR BENDING
- NUMBNESS, TINGLING OR WEAKNESS IN THE ARM OR HAND, DYSPHAGIA (DIFFICULTY SWALLOWING)




DOCTOR, I HAVE HEADACHES AT THE BACK OF MY HEAD AND PINS AND NEEDLES IN MY HANDS

DIAGNOSIS- MRI, CT SCAN AND MYELOGRAM ARE SOME OF THE TESTS DONE TO DIAGNOSE THE PROBLEM.

FOR MORE HELPFUL INFORMATION ON ARNOLD-CHIARI MALFORMATION, PLEASE VISIT:
WWW.DEARNURSES.NET
(THE CLINICAL SETTING STEP BY STEP, CHAPTER 13).

THE DOCTOR ORDERS AN MRI TO DIAGNOSE HIS CONDITION.



I WOULD LIKE TO EXAMINE YOU AND RUN SOME TESTS TO FIND OUT WHAT IS GOING ON.

DIAGNOSTIC TESTS-MRI

PATIENT EDUCATION

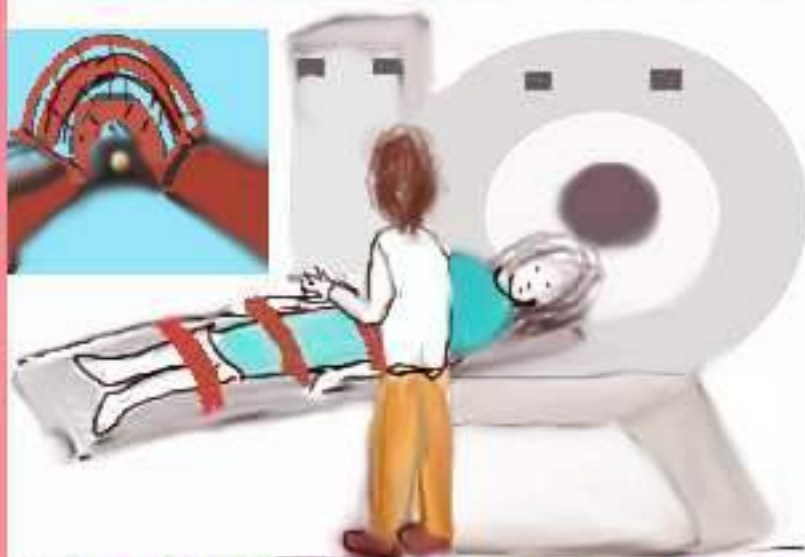
- IT IS IMPORTANT TO TRY TO ALLAY THE FEARS OF THE PATIENT.
- DISCUSS WITH THE PATIENT WHAT TO EXPECT AND SEDATE PER MD ORDERS IF NECESSARY.
- FOLLOW MD ORDERS FOR MRI PREPARATION.

MRI SCAN MAY FEEL LIKE BEING PUT IN A TUNNEL.

MRI PREPARATION

SOME DEVICES THAT MAY POSE RISKS ARE LISTED BELOW. DOCUMENTATION SHOULD BE DONE.

- PACEMAKER INSERTION
- HEART VALVES
- FILTERS SUCH AS AN IVC FILTER (USED TO PREVENT PULMONARY EMBOLI)
- ANEURYSM CLIPS
- SURGICAL WIRES
- AND MANY MORE



MAGNETIC RESONANCE IMAGING



CREDIT CARD



OBJECTS SUCH AS KEYS, JEWELRY, CREDIT CARDS, COINS, GLASSES AND MORE, ARE REMOVED.

SEDATION MAY BE USED TO AVOID MRI CLAUSTROPHOBIA.

A QUESTIONNAIRE IS FILLED OUT PRIOR TO MRI



SOME MRI SCANNERS ARE VERY NOISY, LIKE A BLOWHORN.

BLOWHORN



EARPLUGS ARE USED TO DECREASE THE NOISE LEVEL DURING THE MRI SCAN.

Q- WHAT IS MRI

A- MAGNETIC RESONANCE IMAGING.

MRI SCANNING IS A RADIO-LOGICAL TECHNIQUE USED TO IDENTIFY INTERNAL BODY STRUCTURES. A CONTRAST MEDIA MAY BE USED AND IS USUALLY INJECTED THROUGH AN IV LINE. IT IS IMPORTANT TO KNOW IF THE PATIENT IS ALLERGIC TO DYE OR IODINE.



MRI SCANNER HAS A HIGH MAGNETIC FIELD. REMEMBER TO REMOVE ALL METAL OBJECTS.

AN MRI SCAN WILL OUTLINE INTERNAL BODY STRUCTURES AND ANY TUMORS OR MALFORMATIONS

THE MAGNETIC EFFECT CAN BE FELT PULLING AT METAL OBJECTS, IF NOT REMOVED, BEFORE MRI.



A PATIENT WITH RENAL PROBLEMS MAY NOT BE A GOOD CANDIDATE FOR IV CONTRAST, SINCE THE KIDNEYS MAY NOT BE ABLE TO GET RID OF THE DYE INJECTED INTO THE BODY.

FAILURE TO REMOVE METAL OBJECTS CAN HAVE SERIOUS CONSEQUENCES



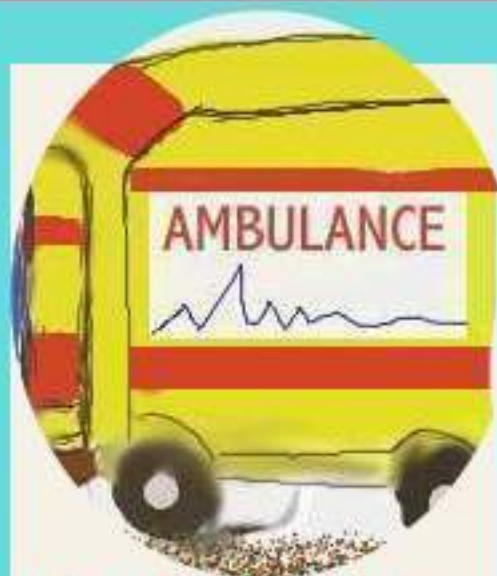
MR.N, DO YOU HAVE ALLERGIES TO DYE OR IODINE?

THE NURSE ATTEMPTS TO GET INFORMATION SUCH AS ALLERGIES.

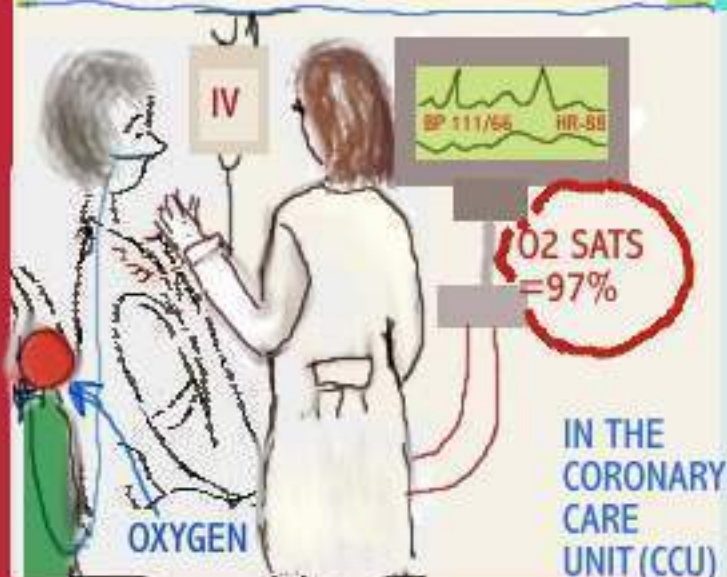


JIM IS VERY ANXIOUS!

IT IS THREE O'CLOCK IN THE MORNING. JIM IS AWAKENED BY SHARP PAIN IN THE CHEST, WITH RADIATION TO THE JAW.



JIM CALLED 911 AND WAS TRANSPORTED TO THE ER.



JIM WAS ADMITTED TO THE CCU. HIS DOCTOR ARRANGED FOR HIM TO HAVE A NUMBER OF TESTS DONE. ONE IS A CARDIAC STRESS TEST TO EVALUATE HIM FOR CAD (CORONARY ARTERY DISEASE).

**CARDIAC
STRESS
TEST**

WHEN THE CARDIAC STRESS TEST IS DONE, THE PATIENT IS MADE TO WALK THE TREADMILL, WITH NO INCLINE AND THE LEVEL OF SPEED INCREASED EVERY 3 MINUTES.

HR-90
BP -130/65
O2 SAT -95%

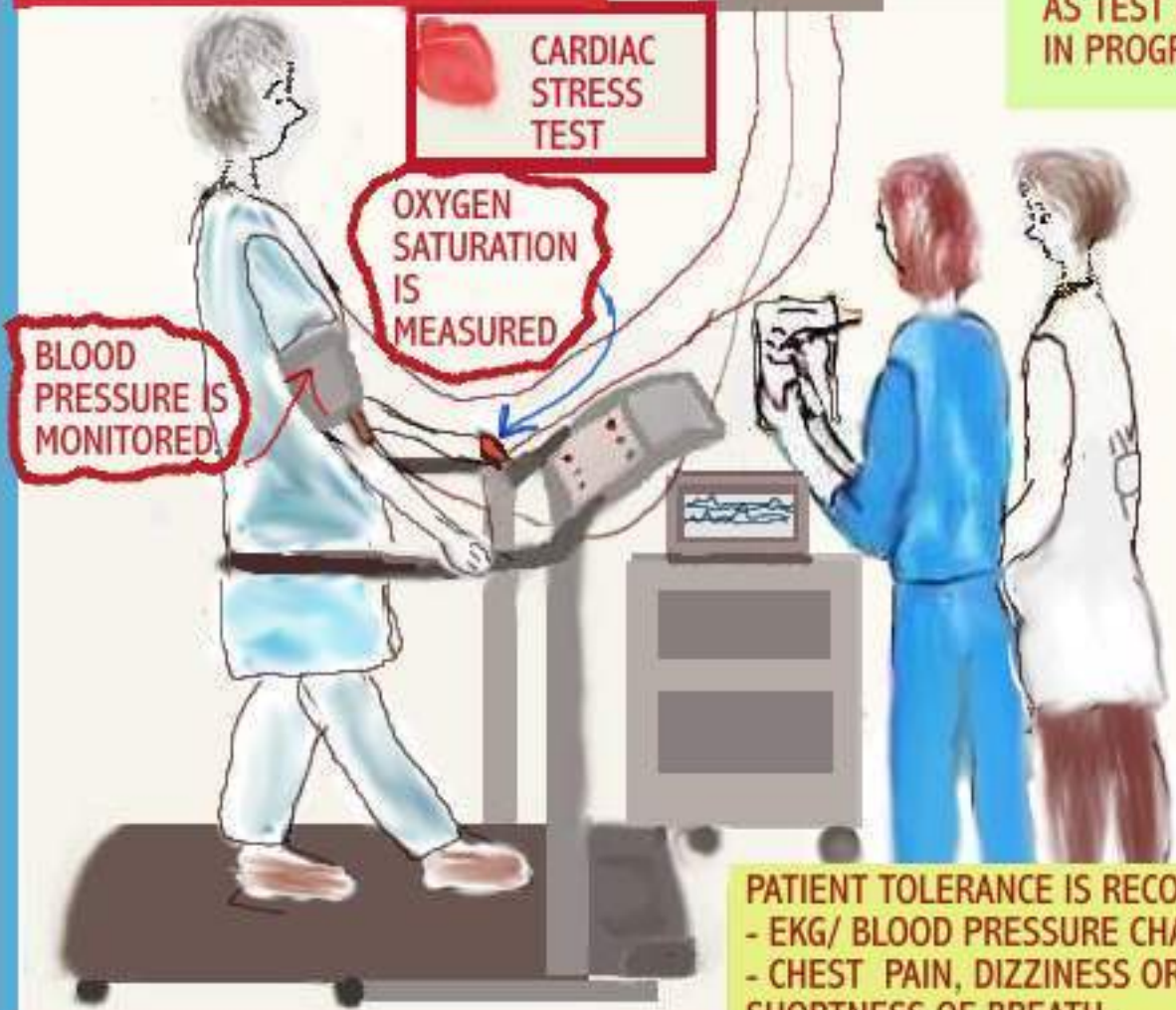
EKG TRACING AND HEART RATE ARE RECORDED, AS TEST IS IN PROGRESS.

CARDIAC STRESS TEST

OXYGEN SATURATION IS MEASURED

BLOOD PRESSURE IS MONITORED.

PATIENT TOLERANCE IS RECORDED
- EKG/ BLOOD PRESSURE CHANGES
- CHEST PAIN, DIZZINESS OR SHORTNESS OF BREATH .

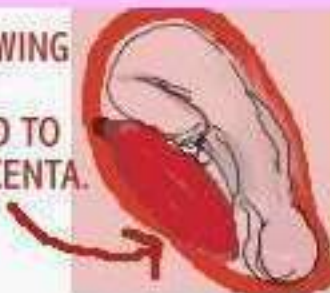


MRS. J IS 12 WEEKS INTO HER PREGNANCY. SHE IS EXPERIENCING MILD VAGINAL BLEEDING.

ULTRASOUND

THE DOCTOR MADE A DIAGNOSIS OF PLACENTA PREVIA. AN ULTRASOUND IS NOW ORDERED.

THE GROWING FETUS IS ATTACHED TO THE PLACENTA.



PAINLESS VAGINAL BLEEDING MAY OCCUR SUDDENLY.



BLEEDING MAY RANGE FROM MILD TO HEAVY.

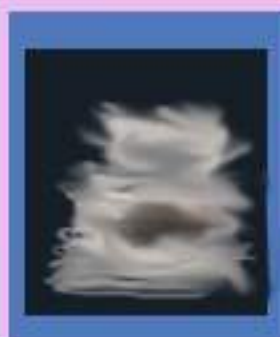
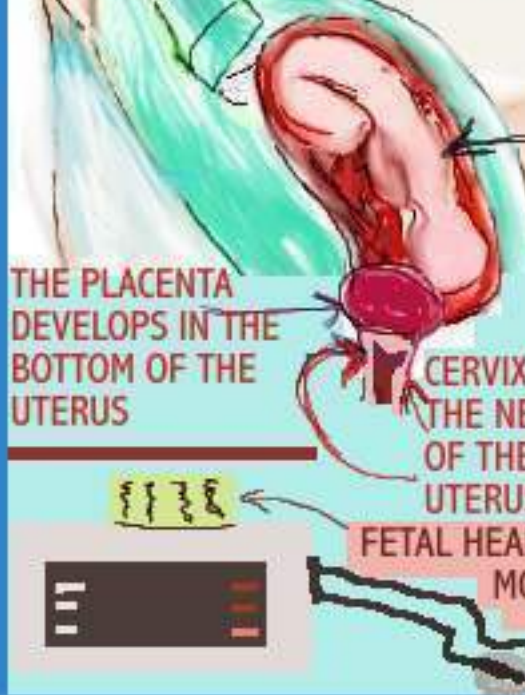
CAUSES INCLUDE:-
-SMOKING IN PREGNANCY
-PREVIOUS C-SECTION
-HISTORY OF MANY PREVIOUS PREGNANCIES

GROWING FETUS

THE PLACENTA DEVELOPS IN THE BOTTOM OF THE UTERUS

CERVIX- THE NECK OF THE UTERUS

FETAL HEART MONITORING

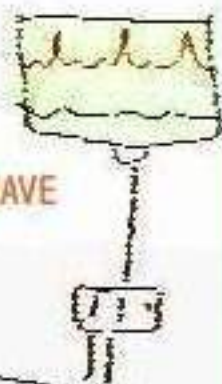
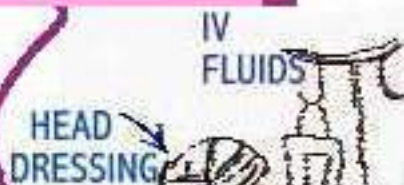


ULTRASOUND IS USED TO CONFIRM DIAGNOSIS OF PLACENTA PREVIA. C-SECTION MAY OR MAY NOT BE NECESSARY.

ULTRASOUND

MR.P IS ADMITTED TO ICU

EXPLOSIVE HEADACHE



14 ICP WAVE

MR.P IS EXPERIENCING THE SYMPTOMS OF A SUBARACHNOID HEMORRHAGE. THIS WAS CAUSED BY A RUPTURED CEREBRAL ANEURYSM.

MR.P WAS DIAGNOSED WITH A RUPTURED CEREBRAL ANEURYSM. CLIPPING OF THE ANEURYSM WAS DONE SURGICALLY.

BLEEDING INTO THE SUBARACHNOID SPACE, CAUSED BY A RUPTURED ANEURYSM



SUBARACHNOID HEMORRHAGE IS DISCUSSED IN CHAPTER 6. A CASE STUDY CAN BE ACCESSED AT : WWW.DEARNURSES.COM



TRANSCRANIAL DOPPLER (TCD) ULTRASOUND

TCD IS DONE TO ASSESS VASOSPASM AFTER SAH.

TRANSCRANIAL DOPPLER ULTRASOUND IS DONE TO ASSESS ANY DECREASE IN BLOOD FLOW (ARTERIAL) TO THE BRAIN. THIS STUDY IS NOT INVASIVE.

ULTRASOUND



BOATS
USE A SIMILAR
METHOD.



FEMALE
25 WEEKS GESTATION
NO ALLERGIES
25 YEARS OLD



THE TECHNICIAN EXPLAINS TO THE PATIENT, WHAT TO EXPECT AS SHE DOES AN ULTRASOUND, ORDERED BY THE DOCTOR.



BOTH MRS.J AND MR.P ARE HAVING AN ULTRASOUND. IT IS USUALLY PERFORMED AT THE BEDSIDE. IT IS PAINLESS AND A CONTACT GEL IS APPLIED TO THE SKIN BEFORE IT IS DONE. A PROBE IS USED TO ACCURATELY SENSE THE SOUND WAVES, WHICH IS SIMILAR TO WHAT BOATS USE TO VIEW THE OCEAN'S FLOOR. PATIENT TEACHING SHOULD BE DONE, TO ALLAY ANY FEARS.

ULTRASONIC WAVES ARE USED TO DIAGNOSE INTERNAL STRUCTURES LIKE THE GROWING FETUS.

TIME

EYE EXAM



DIPLOPIA (DOUBLE VISION)

MARY HAS FINISHED PUMPING GAS. AS SHE WALKS TO THE SERVICE CENTER TO PAY, SHE NOTICES SHE IS SEEING DOUBLE (DIPLOPIA).

GLAUCOMA



TONOMETRY IS USED TO CHECK EYE PRESSURE FOR GLAUCOMA.

DIPLOPIA MAY BE CLASSIFIED AS TEMPORARY, MONOCULAR, BINOCULAR OR VOLUNTARY . CAUSES INCLUDE : HEAD INJURY, BRAIN TUMOR, ALCOHOL INTOXICATION, DRUGS LIKE DILANTIN, MULTIPLE SCLEROSIS, CRANIAL NERVE INJURY AND MANY MORE.

SEE STROKE ASSESSMENT- IN THE CLINICAL SETTING(VOLUME 2) FOR CRANIAL NERVE ASSESSMENT: WWW.DEARNURSES.COM



THE SLIT LAMP IS USED TO EXAMINE THE EYE STRUCTURES. IT MAGNIFIES THE EYE AND IS ABLE TO SHOW UP CATARACTS, THE ANTERIOR AND POSTERIOR PORTIONS OF THE EYE, CORNEAS, IRIS AND MORE CAN BE CHECKED FOR EYE DISEASE.

THE EYE DOCTOR DOES A NUMBER OF DIFFERENT TESTS WHICH INCLUDE TONOMOMETRY FOR GLAUCOMA, VISUAL ACUITY, COVER TEST, PUPILLARY TESTS AND MORE.



EYE DROPS

ARE USED PUT IN THE EYE, BEFORE TESTING.

MARY IS IN THE EYE DOCTOR'S OFFICE AND IS ABOUT TO HAVE HER EYES CHECKED.



EYE EXAM

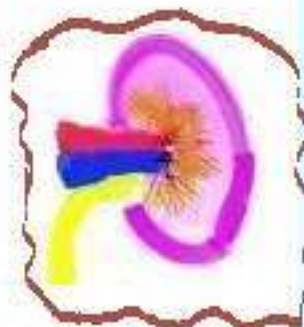


THIS IS A SAMPLE OF THE SNELLEN CHART.

THE SNELLEN CHART IS USED TO CHECK VISUAL ACUITY. THE PATIENT READS FROM 20 FEET AWAY.

ANGIOGRAPHY

MR. R IS ADMITTED TO THE HOSPITAL FOR COMPLAINTS OF FEELING VERY TIRED AND A DECREASE IN URINARY OUTPUT.



RENAL ANGIOGRAPHY IS NOW SCHEDULED. THE NURSE RECEIVES CONSENT AND INFORMATION ABOUT ALLERGIES.

PATIENT EDUCATION SHOULD NOT BE IGNORED.



HELPFUL HINTS

- FOLLOW MD ORDERS
- EXPLAIN PROCEDURE
- ANSWER QUESTIONS TO ALLAY FEARS
- COMPLETE PROFILE AND HAVE CONSENT SIGNED

IN X-RAY



ANGIOGRAPHY



WHEN ANGIOGRAPHY IS PERFORMED, THE RADIOLOGIST INJECTS DYE INTO A MAJOR BLOOD VESSEL LIKE THE FEMORAL ARTERY (ARTERIAL PUNCTURE) AND X-RAYS ARE TAKEN. THE DYE ENABLES THE BLOOD VESSELS TO BE OUTLINED AND SEEN UNDER A FLUROSCOPIC SCREEN IV FLUIDS ARE ALSO GIVEN TO THE PATIENT. THE NURSE MONITORS AND RECORDS THE VITAL SIGNS, OXYGEN SATURATION AND ANY SIGNS OF REACTION TO DYE.

**HOPE YOU
ENJOYED
LEARNING!**

