



SNS COLLEGE OF ALLIED HEALTH SCIENCES

SNS Kalvi Nagar, Coimbatore - 35

Affiliated to Dr MGR Medical University, Chennai



DEPARTMENT OF RADIOGRAPHY AND IMAGING TECHNOLOGY

COURSE NAME : CONTRAST AND SPECIAL RADIOGRAPHY PROCEDURES

II YEAR

UNIT : 4

TOPIC : ORTHOGRAPHY



INTRODUCTION



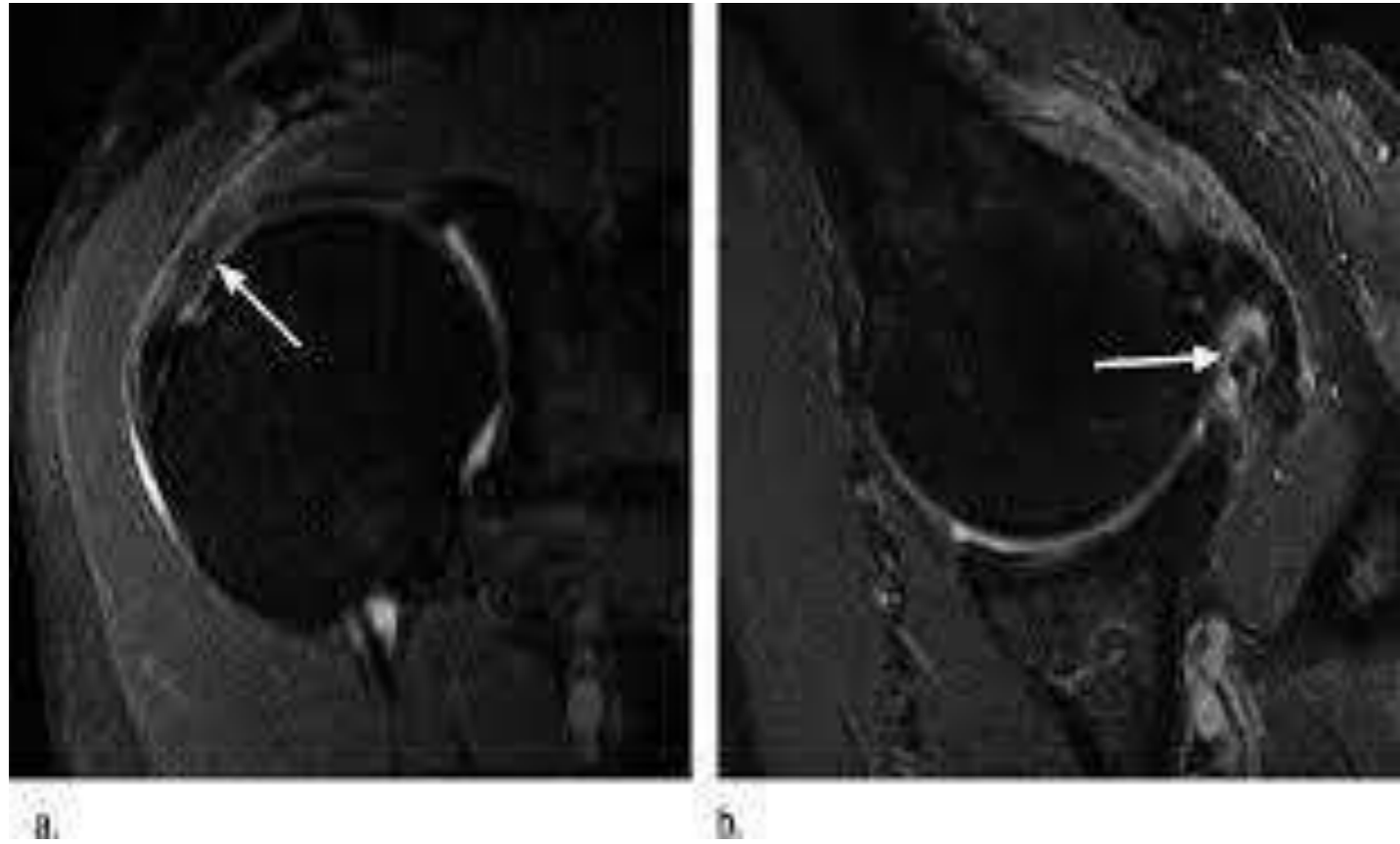
It is a radiographic imaging procedure in which radio-opaque contrast media is injected into the joints cavities to study the joints abnormalities and associates soft tissues. The orthography is the most common test performed to evaluate the abnormalities of synovial joints such as shoulder, elbow, wrist, hip joint, knee joint and TM joint. The orthography can be either direct or indirect.

Indirect Orthography – In indirect orthography, the contrast media is injected into the bloodstream. Then the contrast media moves with the flow of the blood. The images are taken after a specific period of time, for example CT scan orthography.

Direct Orthography – In direct orthography, the contrast media is injected directly into the joints cavity, and images are taken immediately after administration of contrast media.

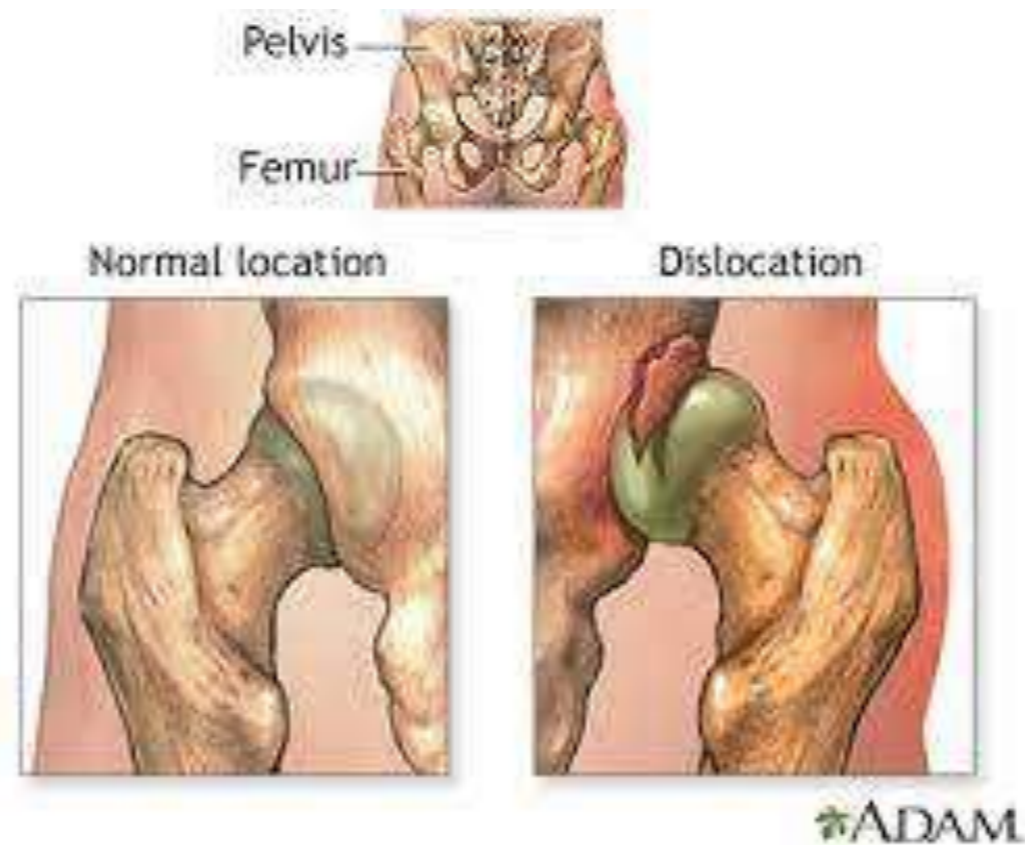


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INDICATION

- Joint pain.
- Inflammation.
- Tear of the joint capsule.
- Rupture of ligaments.
- Dislocation of joints.





CONTRAINDICATION



- Allergy to iodine.
- Suspected pregnancy.
- Patients have asthma and diabetes.
- Recent joints fracture.





PATIENT PREPARATION



- The patient is asked to take low residue diet for two days prior the examination and drink clear liquids the day before the examination.
- Fasting may be employed for 6-8 hours. Ask the patient not to eat or drink after midnight.
- Women should inform about any possibility of pregnancy. Pregnant women should not have a radiologic examination because of high risk of radiation exposure to the unborn baby.
- The patient is instructed to remove all the metallic objects and metallic jewellery from the body.
- The insertion site must be shaved before the examination.



EQUIPMENT



- Fluoroscopy with spot film device.
- Orthography tray which include –
 - Gauze
 - Sponge
 - Syringe 50CC ,20CC ,10CC
 - Local anaesthesia
 - Antiseptic solution
 - Spinal needle 18 guage
 - Contrast media non-ionic water – soluble
- Negative contrast media carbon dioxide or room air 80-200cc.





PROCEDURE



- On the day of the examination, the technologist should describe the whole procedure to the patient and obtain written consent from the patient, for permission of procedure.
- The patient is asked to remove clothing and wear hospital gown.
- The patient is placed in supine position with an empty bladder on the fluoroscopic table.
- An intravenous line is inserted into the patient arm. If necessary, sedative drugs are given through the line to make the patient relax.
- A plain X-ray of the specific joint should be taken before the examination.
- The insertion site of the patient must be cleaned with the antiseptic solution under the strict sterile protocol and draped with a sterile towel.
- Afterward, local anaesthesia is given at the insertion site. After numbing the area, the radiologist then inserts the spinal needle into the joint cavity under the fluoroscopy guidance.



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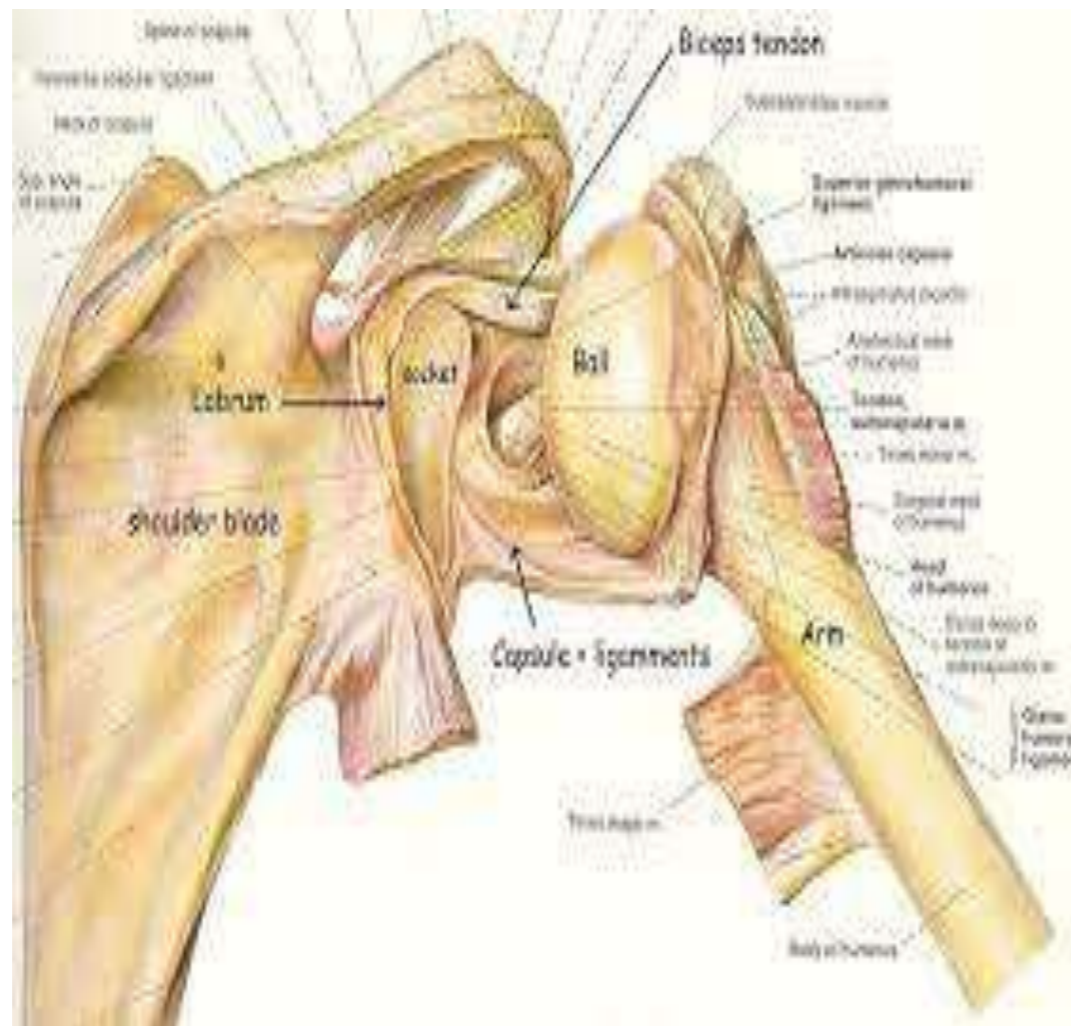
- After the insertion, the radiologist aspirates 5 to 10 cc fluid from the joint for laboratory analysis, and then injects 5 to 10 CC contrast media into the joint under fluoroscopy guidance.
- The spot films should be taken during and after the contrast media.
- In several cases, dual contrast media may be injected to evaluate the soft tissue structures. For this, 80-200cc carbon dioxide (negative contrast media) is injected after administration of positive contrast media. This process gives a thin coating of positive contrast media over the soft tissue structures.
- In some cases, additional medicine such as steroids, anti-inflammatory may be injected along with the contrast to relieve the pain and swelling.
- After completion of the examination, the spinal needle is removed, and then the pressure dressing is applied on the insertion site. Subsequently, the radiologist again evaluates the joint movement under fluoroscopy.



WRIST JOINT ORTHOGRAPHY



SHOULDER JOINT ORTHOGRAPHY

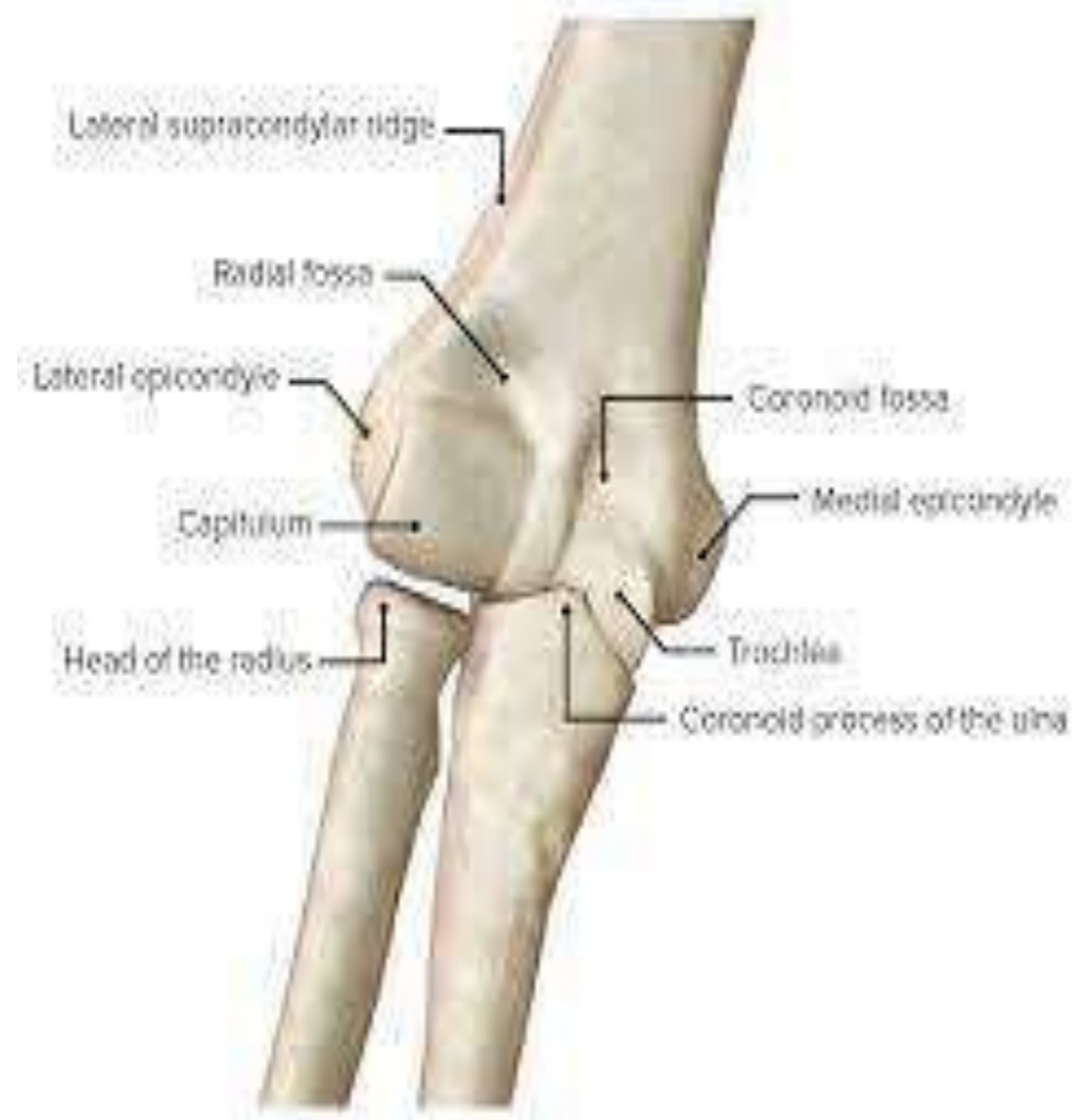




HIP JOINT ORTHOGRAPHY



ELBOW JOINT ORTHOGRAPHY





AFTER CARE



- The patient should be kept under observation. The vital sign must be monitored.
- If the vital signs are normal, then the patient is allowed to leave the examination room.







THANK YOU

