

CLINICAL ROLES FOR RADIOGRAPHY AND FLUOROSCOPY

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JUNE 2004 • VOL 14 • NO 6

www.advanceweb.com

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PEDIATRIC IMRT
PG. 57

PG. 22

Q&A: ACADEMIC
RADIOLOGY
TESTS ITS LIMITS

PG. 41

WHERE ARE ALL
THE MEDICAL
PHYSICISTS?

CHART SMART:
DIGITAL
RADIOGRAPHY



PET/CT LOOKING AHEAD

PG. 28



OVERVIEW

- CURRENT CLINICAL USES OF RADIOGRAPHY & FLUOROSCOPY
- FUTURE APPLICATIONS/TRENDS

RADIOGRAPHY



RADIOGRAPHY

- CHEST RADIOGRAPHY
- BONE RADIOGRAPHY
- ABDOMINAL RADIOGRAPHY



1898



1895

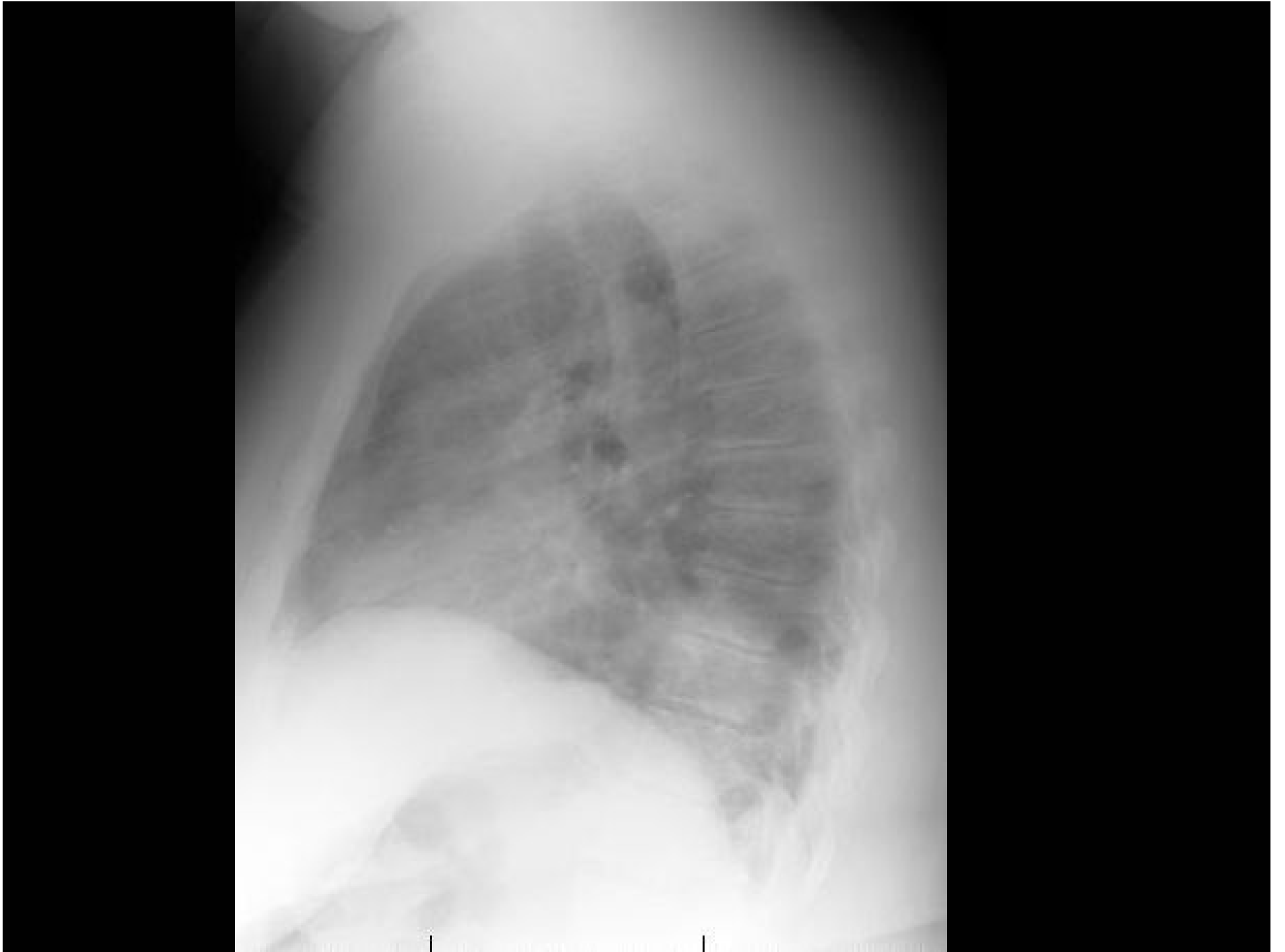
CHEST RADIOGRAPHY

- ACUTE/CHRONIC RESPIRATORY ILLNESSES
 - pneumonia, CHF, PTX, interstitial lung disease
 - ICU care (tube and line position)/postoperative care

CHEST RADIOGRAPHY

- PULMONARY NODULE DETECTION
 - LUNG CANCER SCREENING
 - MALIGNANCY STAGING
- HEART SIZE & MEDIASTINAL CONTOUR







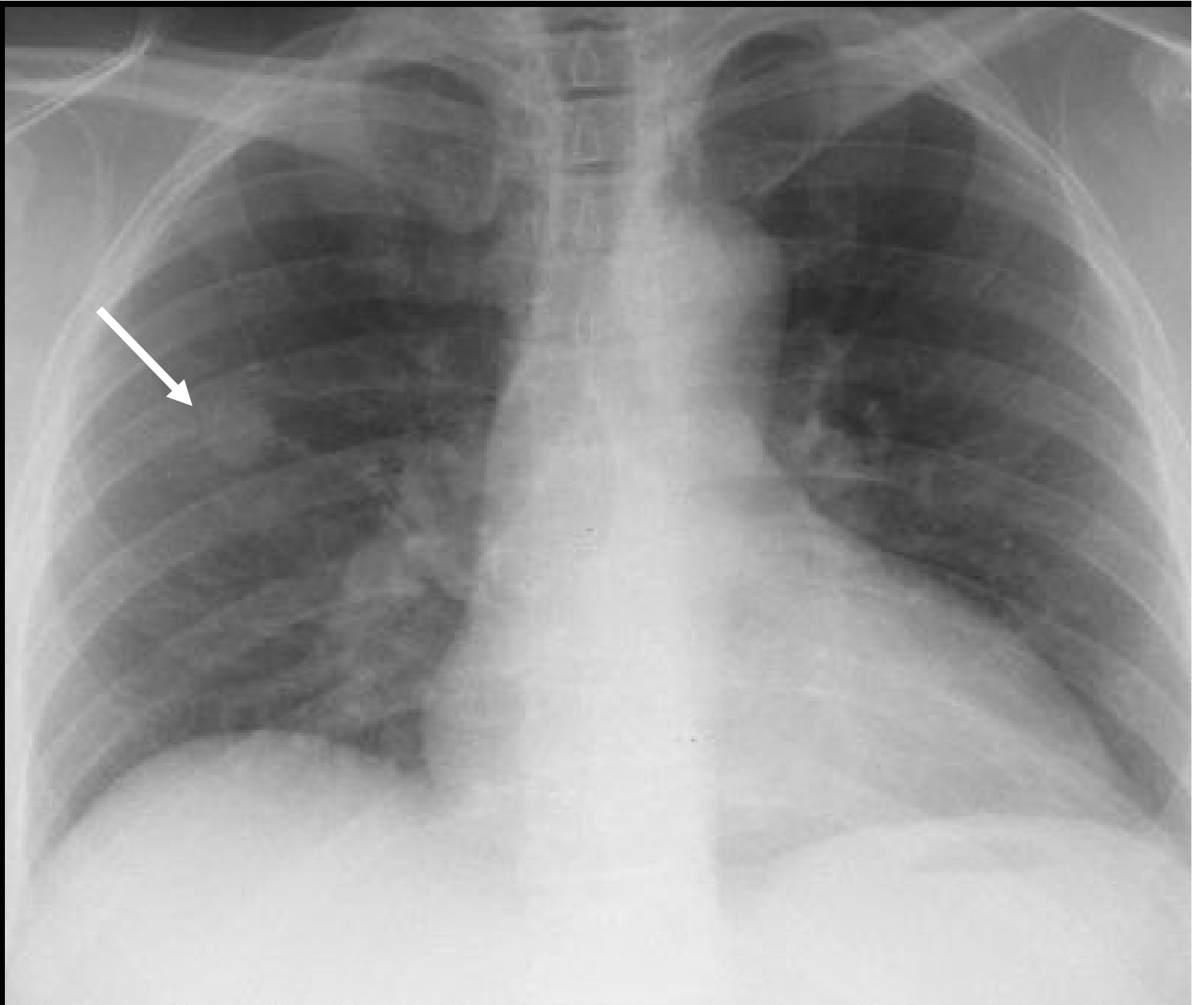




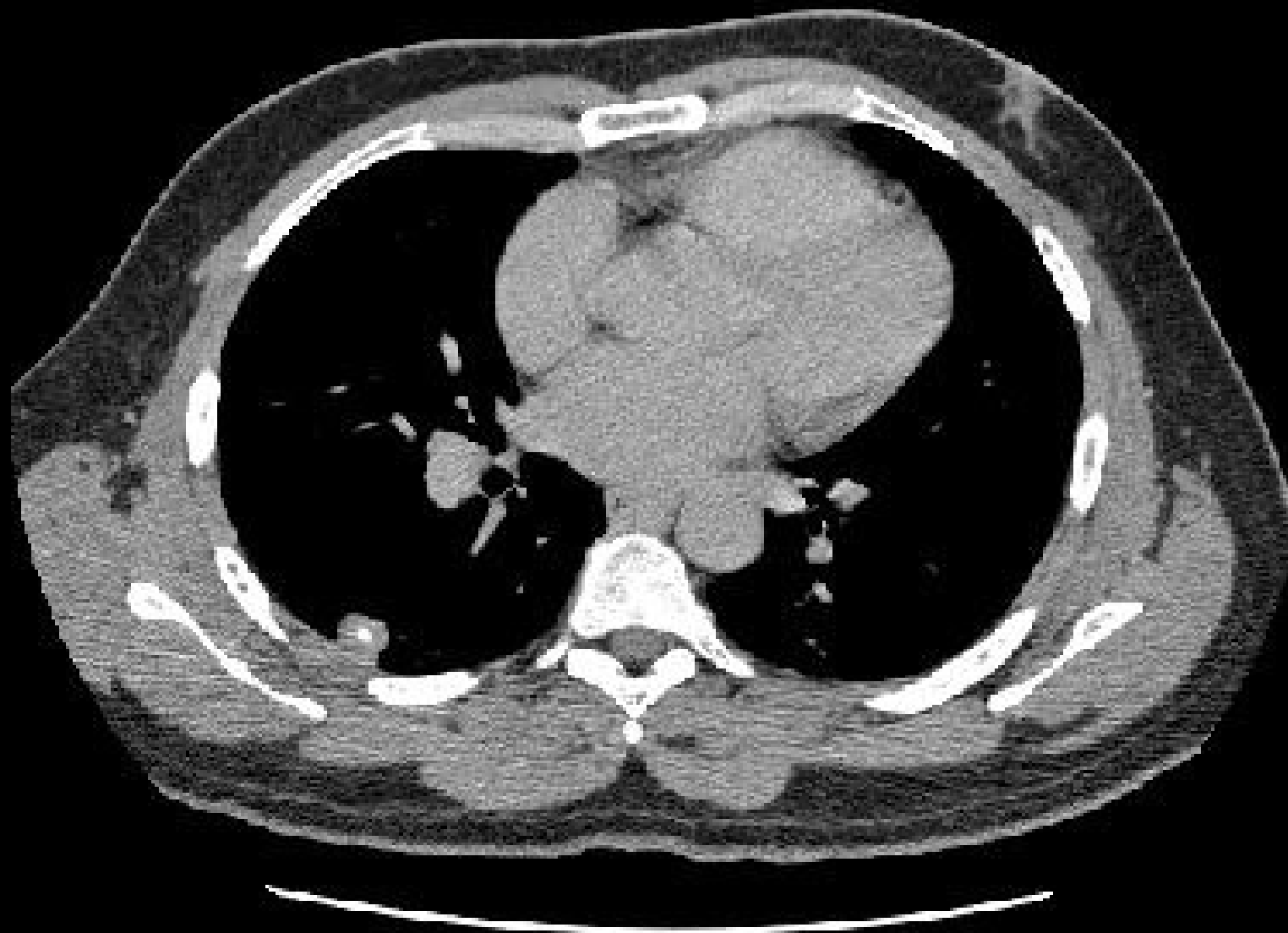


HAMARTOMA

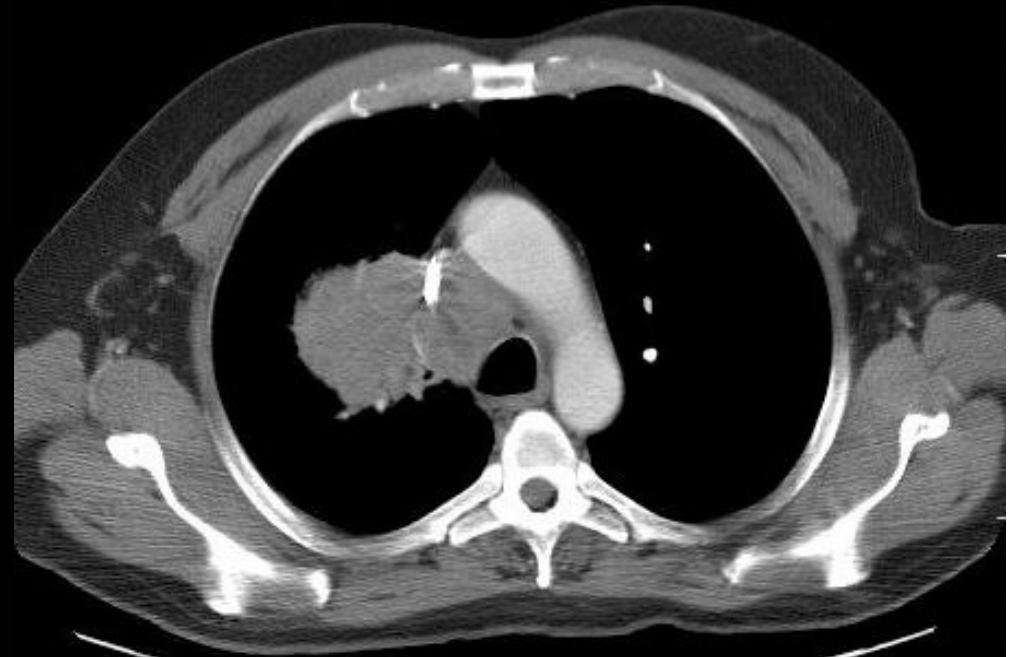


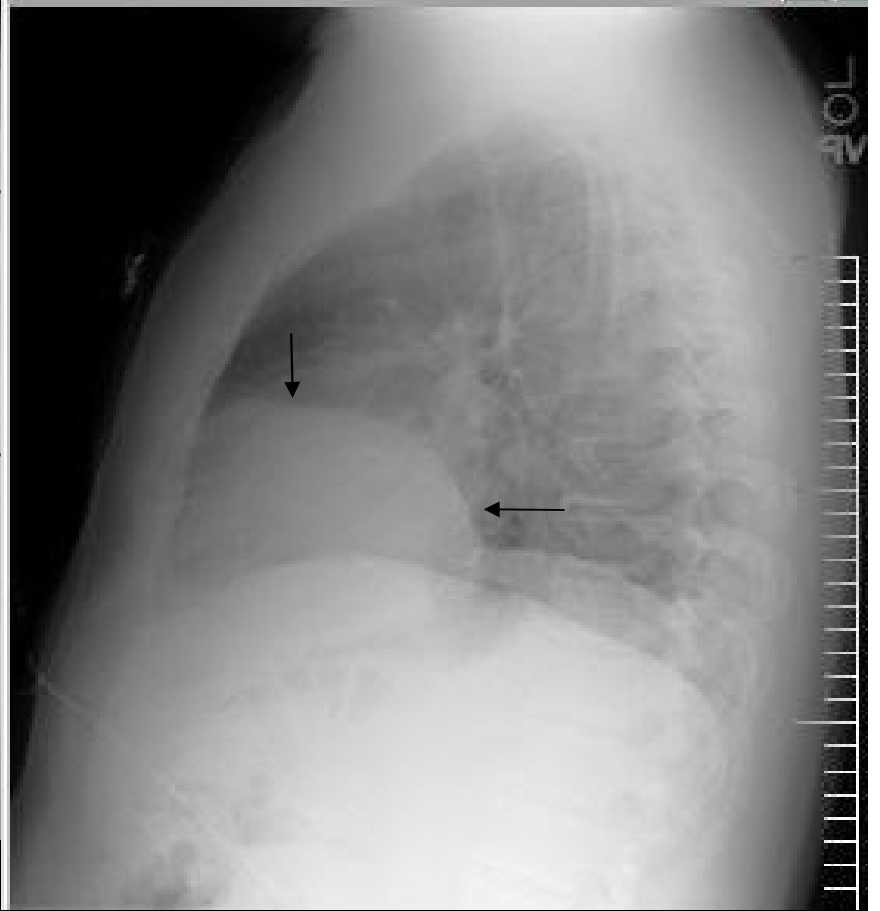
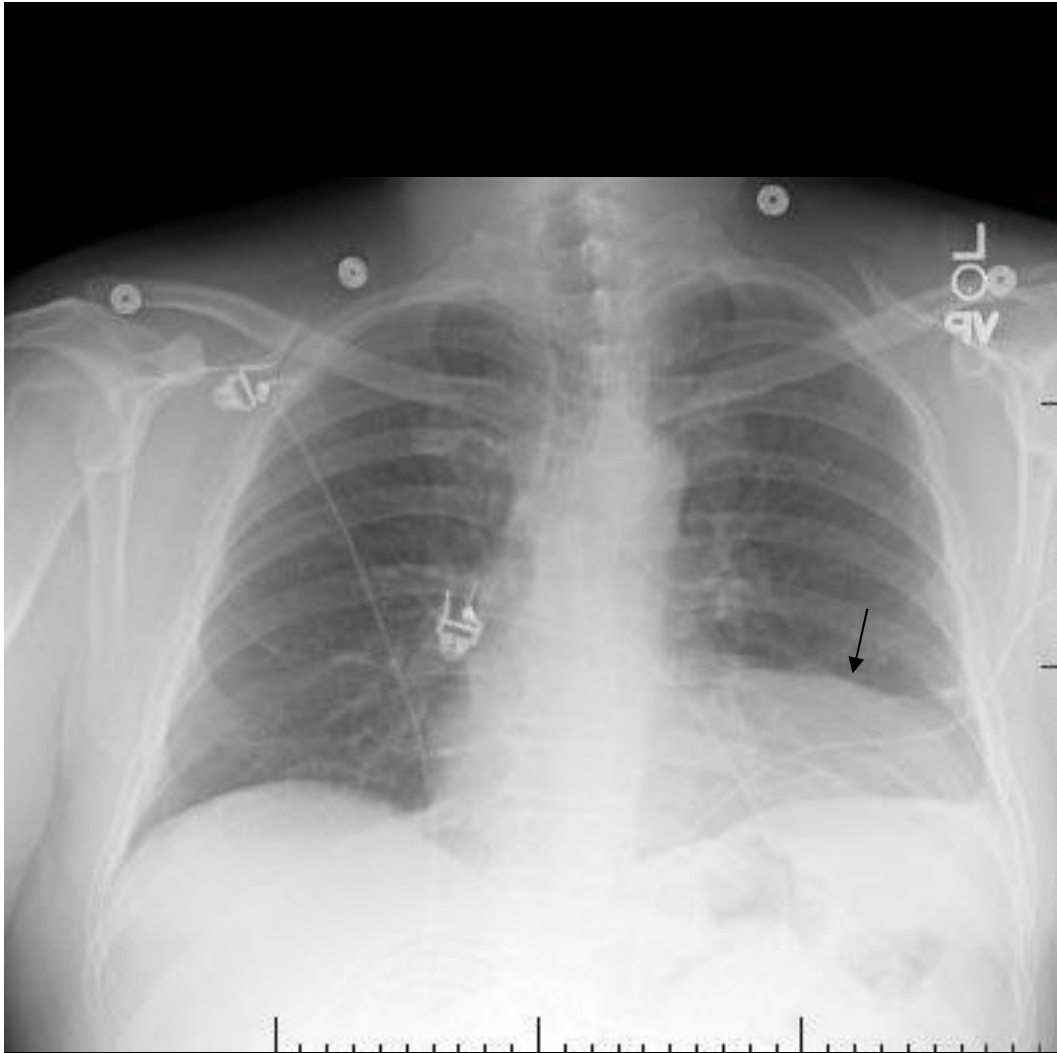


CALCIFIED GRANULOMA

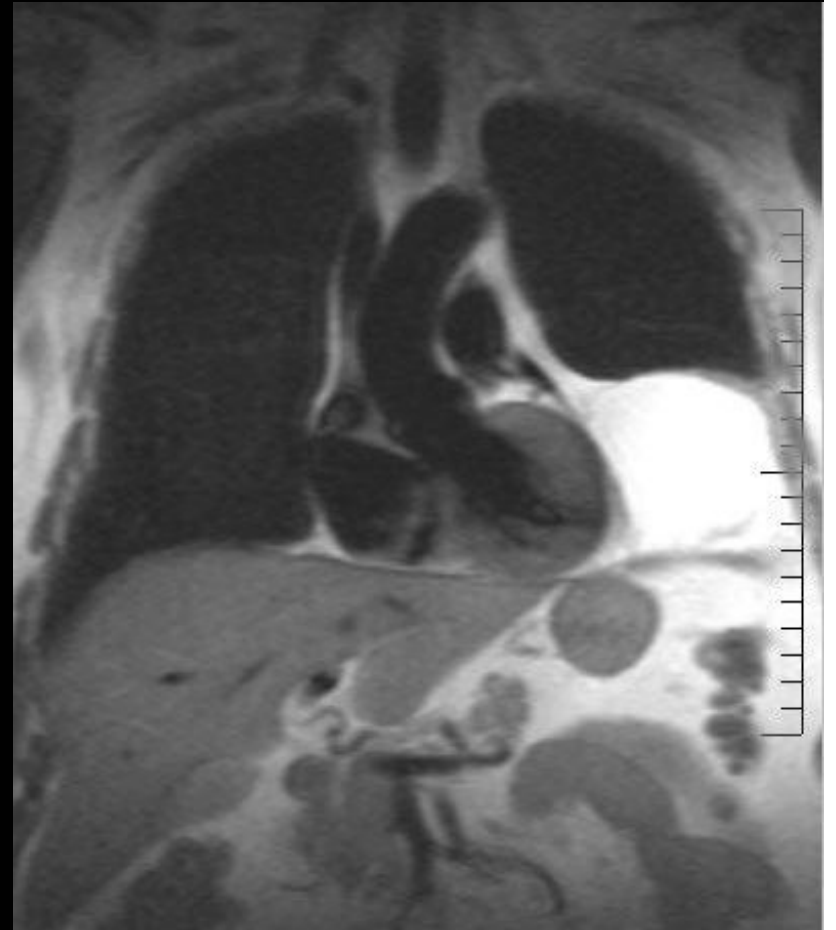
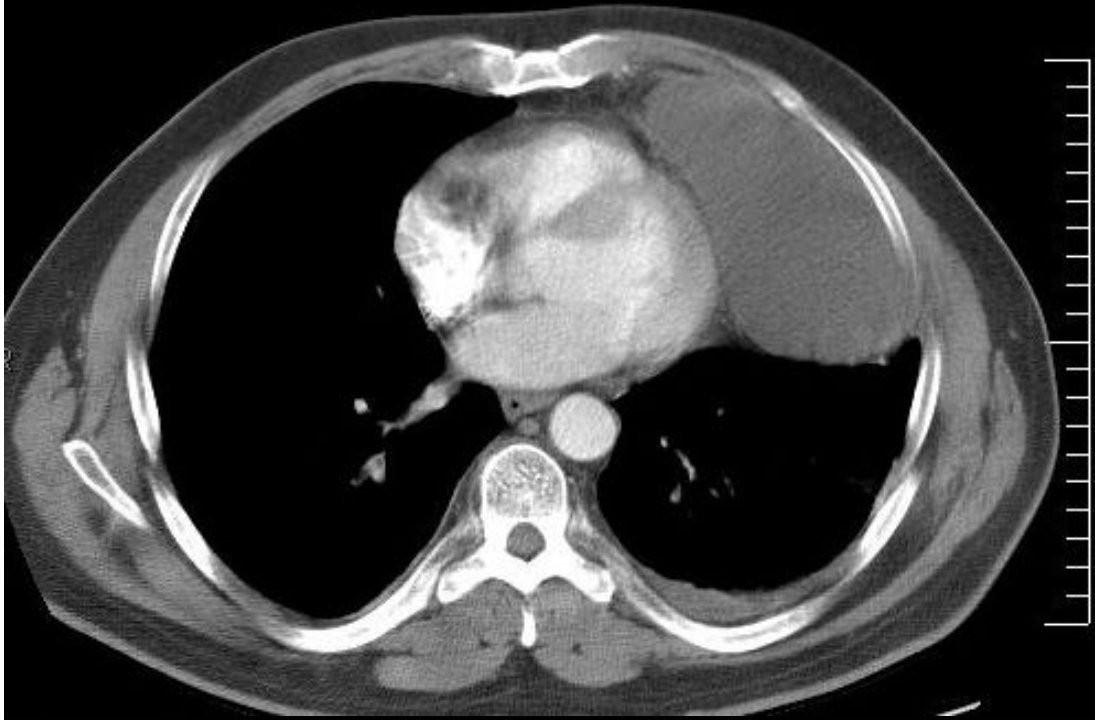


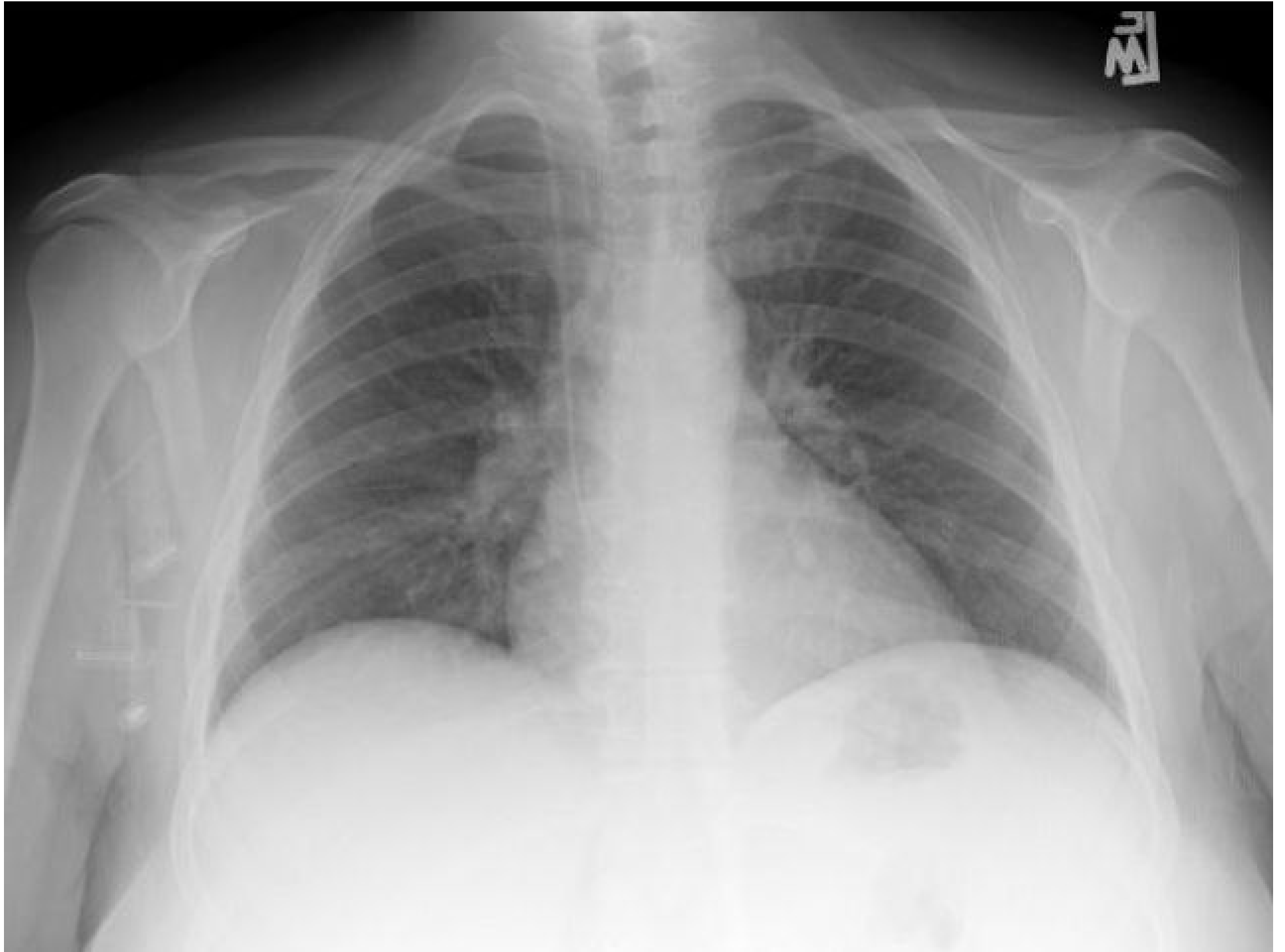
LUNG CANCER



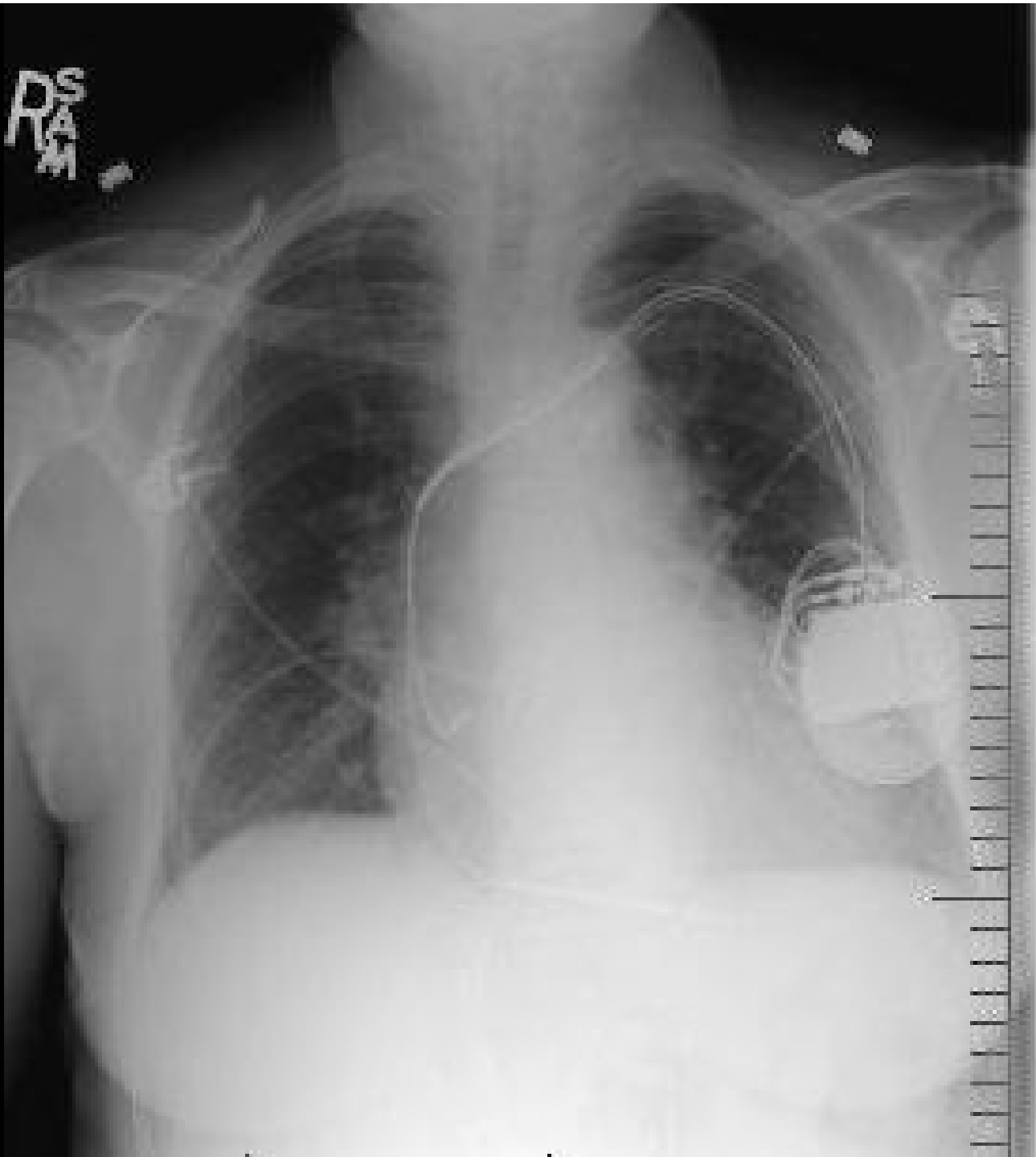


PERICARDIAL CYST





DS
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FUTURE ROLE OF CHEST RADIOGRAPHY

- CONTINUED USE OF CHEST
RADIOGRAPHY IN ICU/ACUTE
RESPIRATORY ILLNESS

FUTURE ROLE OF CHEST RADIOGRAPHY

- DIMINISHED ROLE IN LUNG CANCER SCREENING*, INTERSTITIAL LUNG DISEASE EVALUATION.
- INCREASING ROLE OF LOW DOSE CT /HIGH RESOLUTION CT

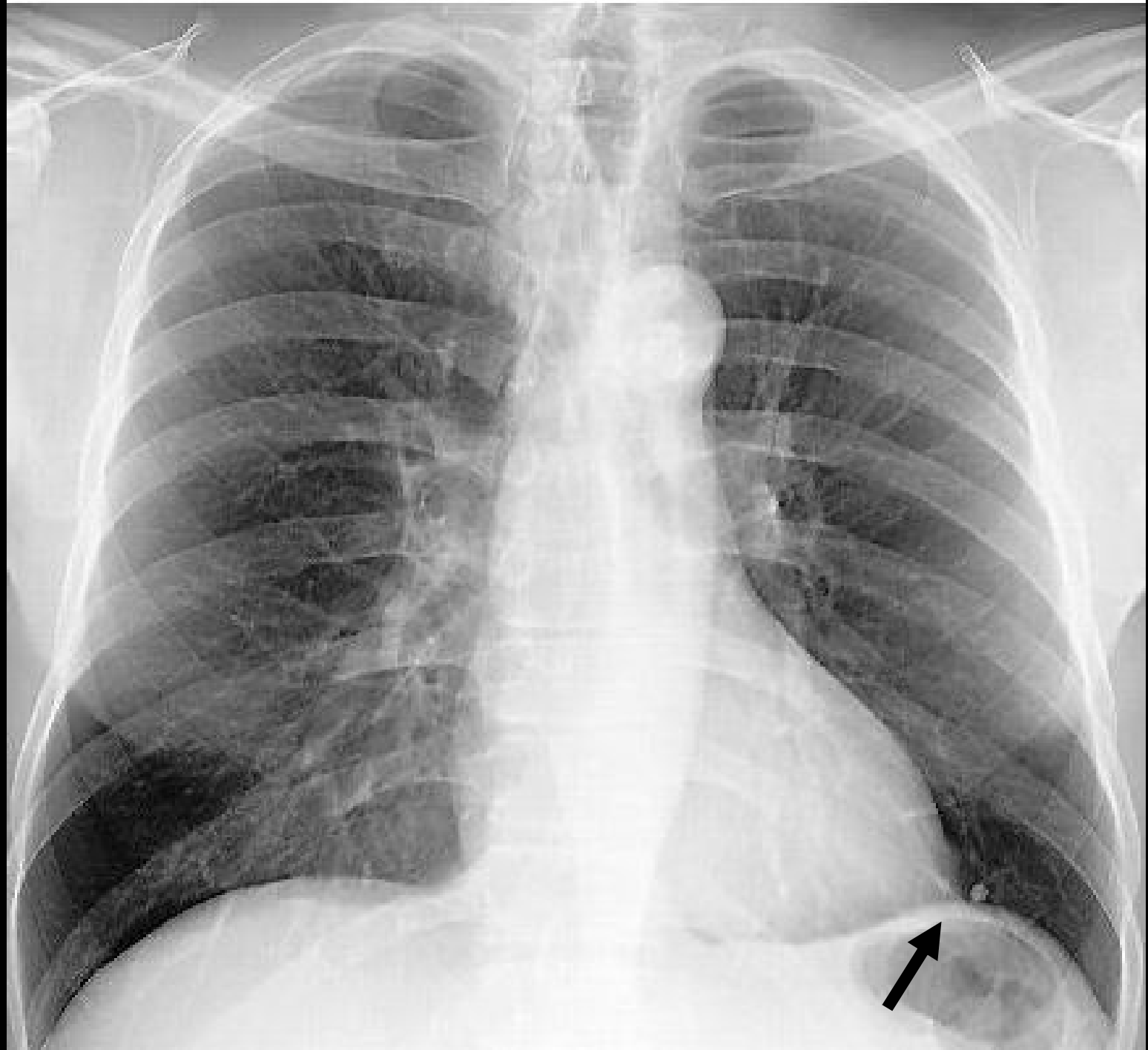
*ELCAP, Lancet. 1999 Jul
10;354(9173):86-7

FUTURE ROLE OF CHEST RADIOGRAPHY

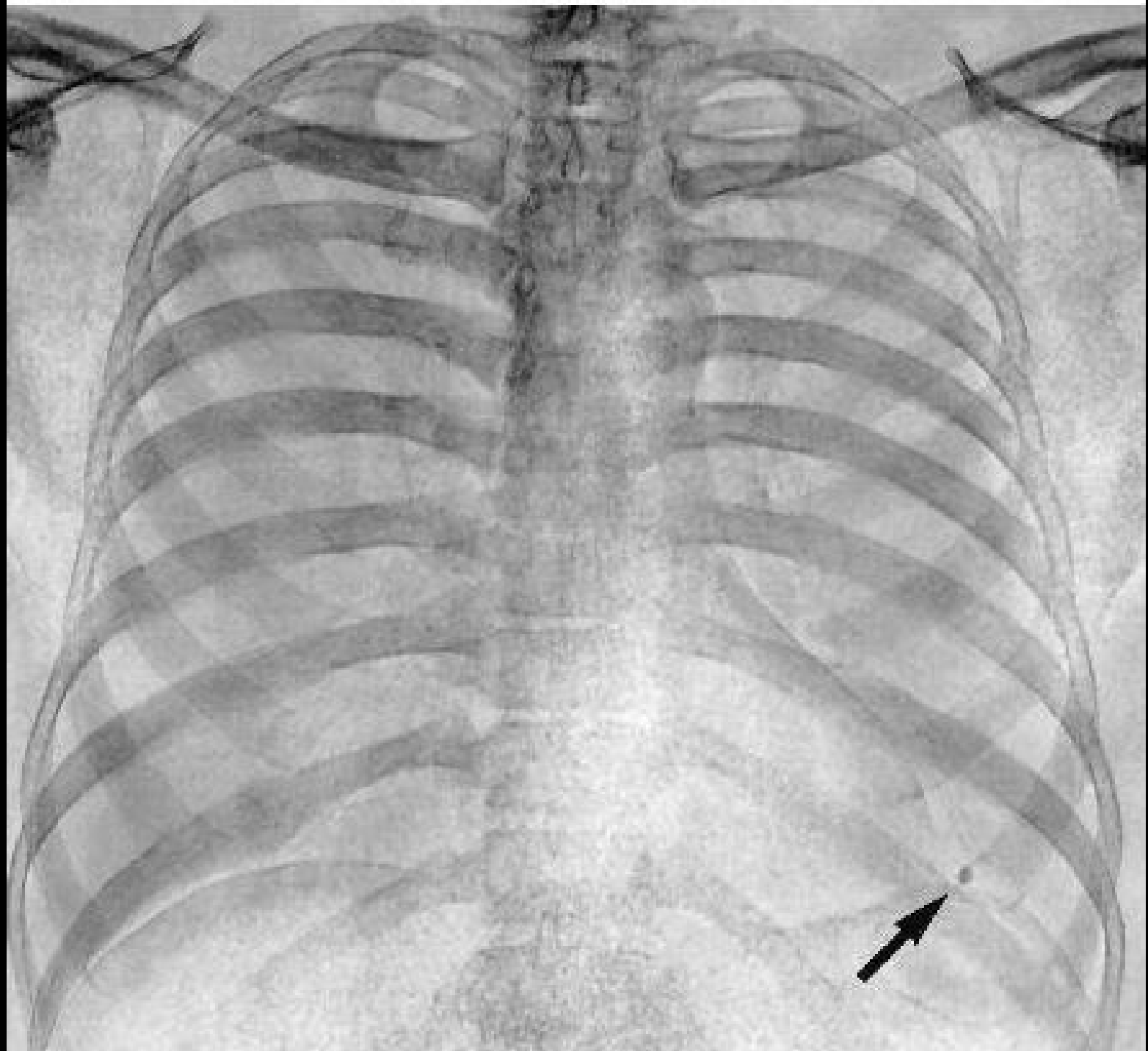
- IMPROVED METHODS FOR OPACITY DETECTION/CHARACTERIZATION WITH DIGITAL RADIOGRAPHY TECHNIQUES[dual energy subtraction, temporal subtraction, computer aided diagnosis (CAD)]

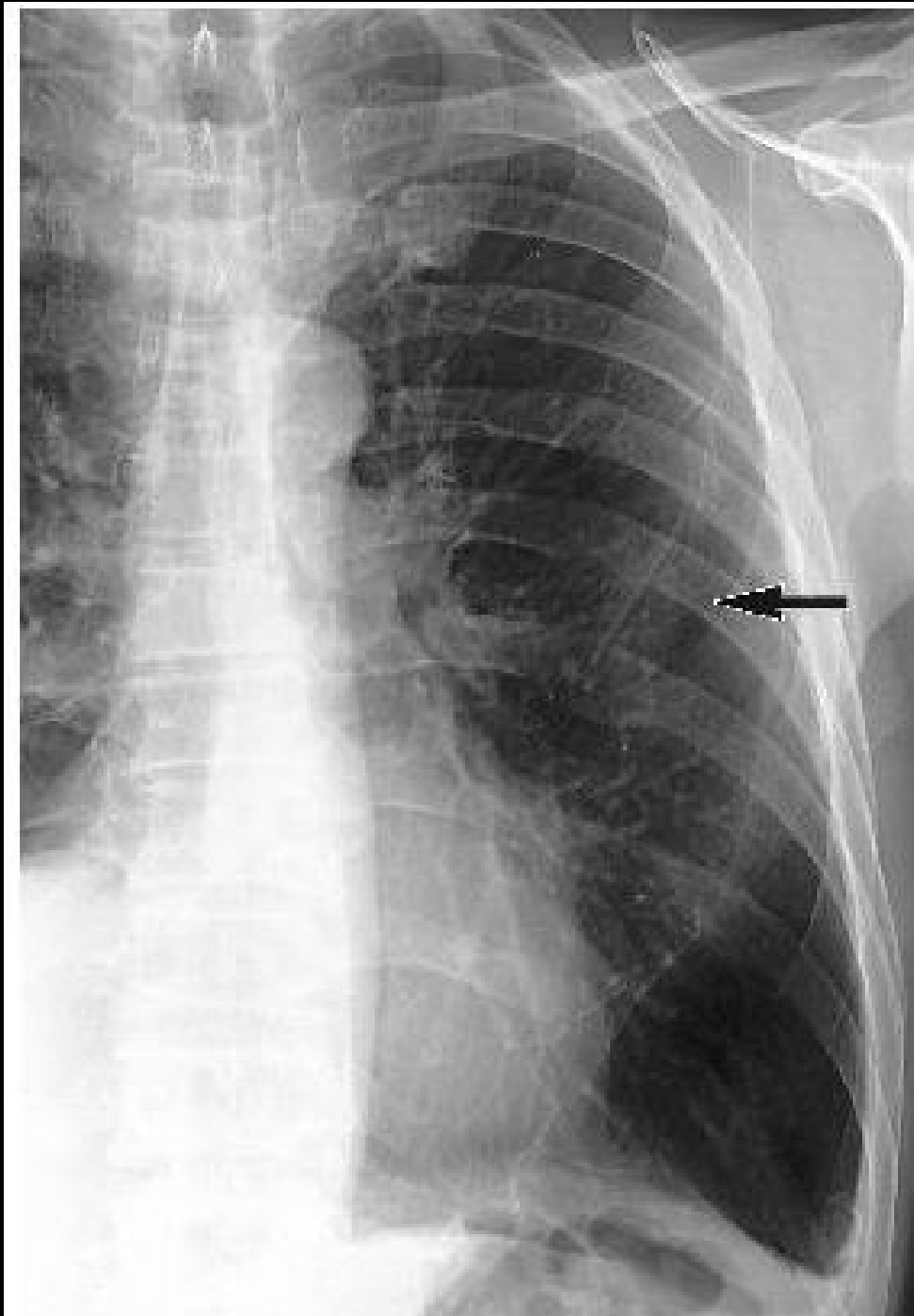
DUAL ENERGY SUBTRACTION

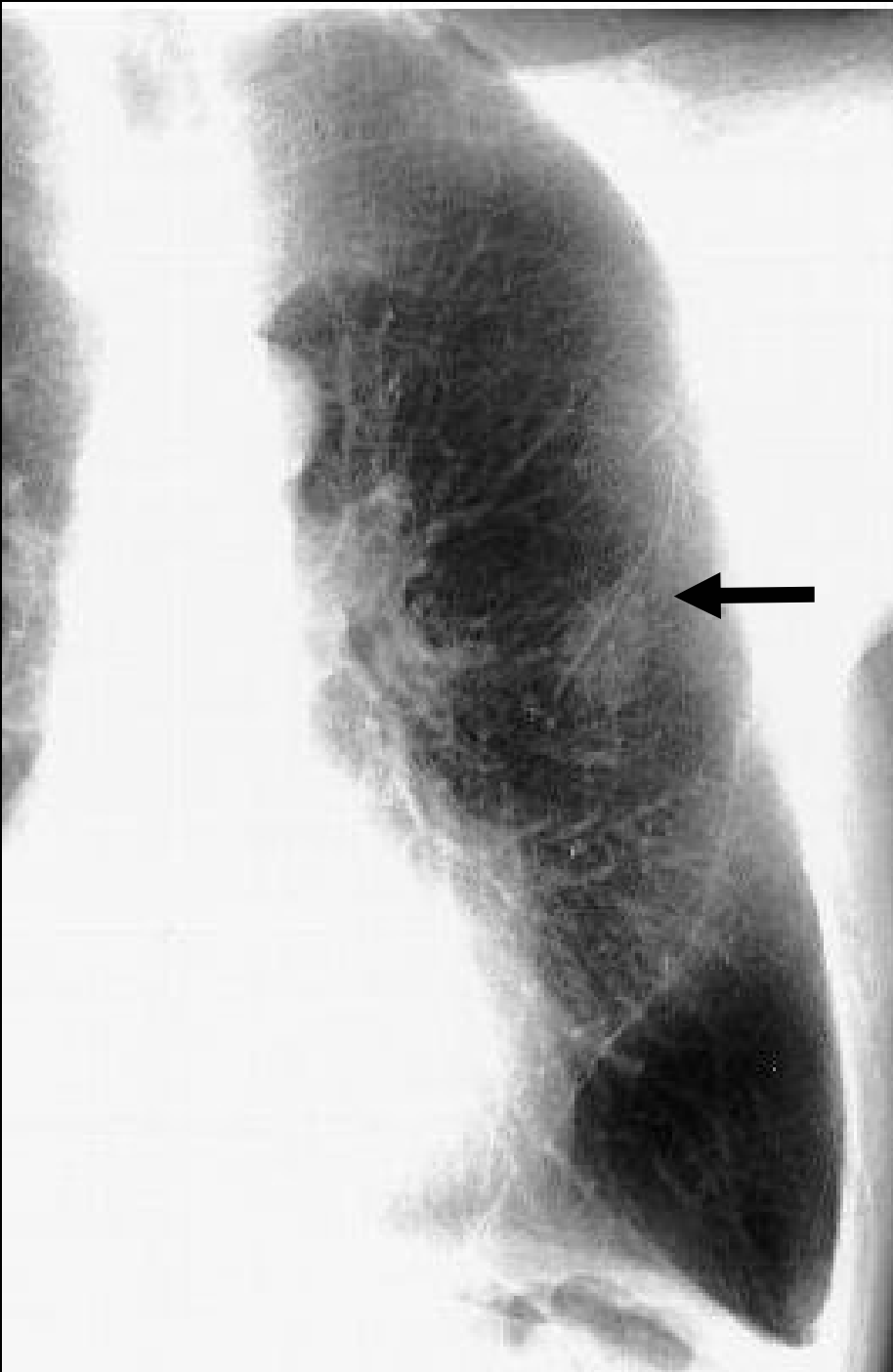
MacMahon. Radiographics. 2000;20:1169-
1177

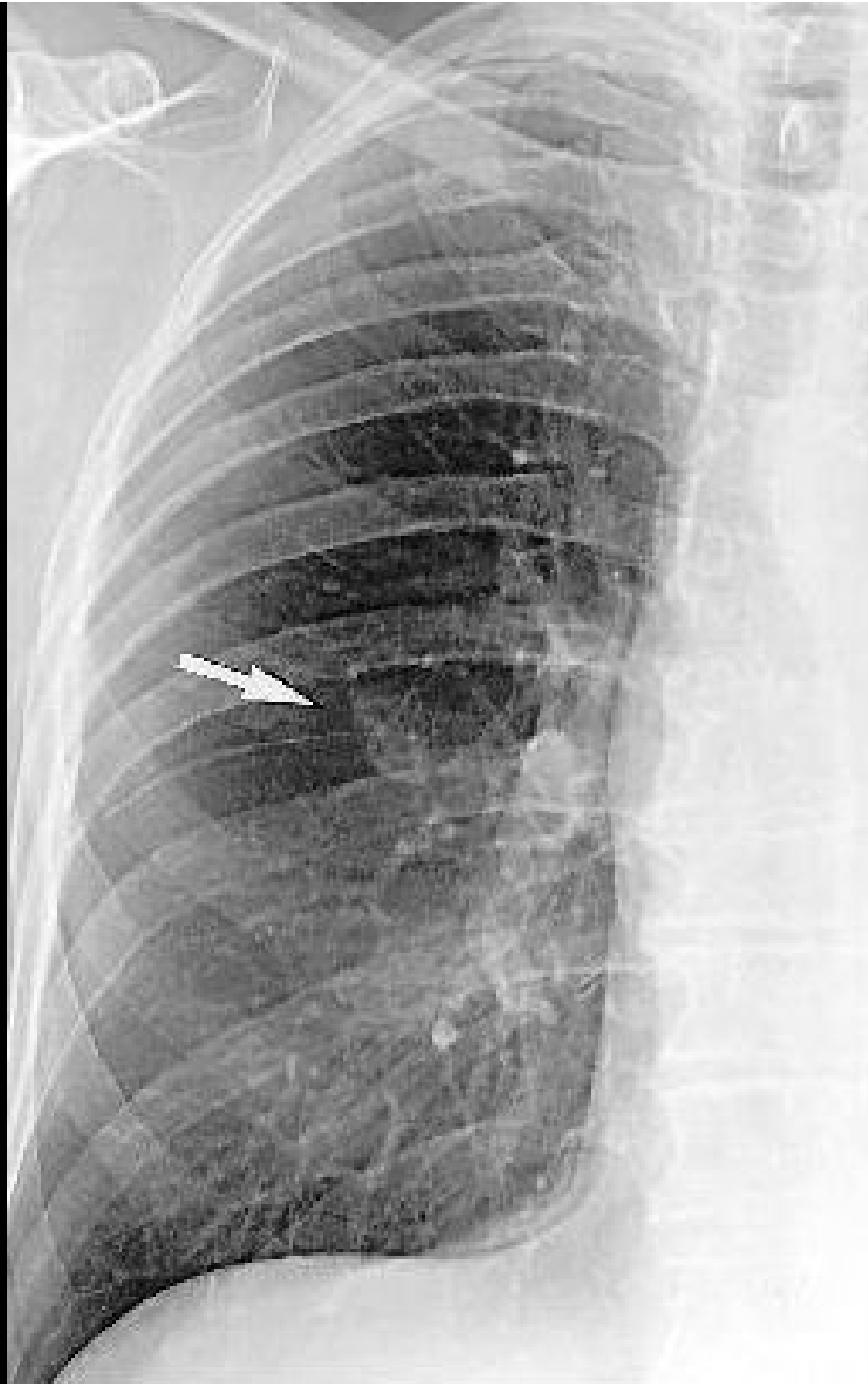


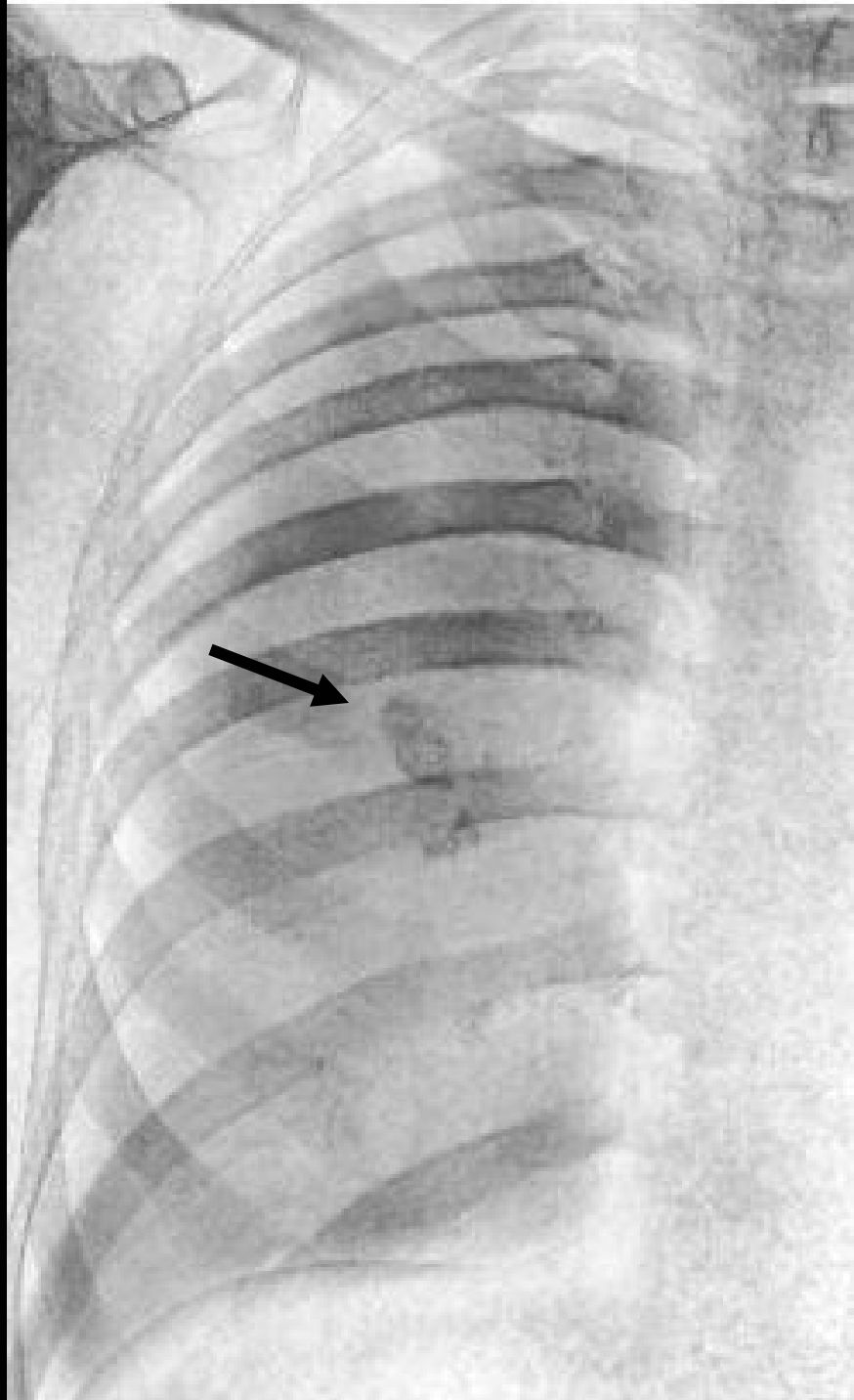




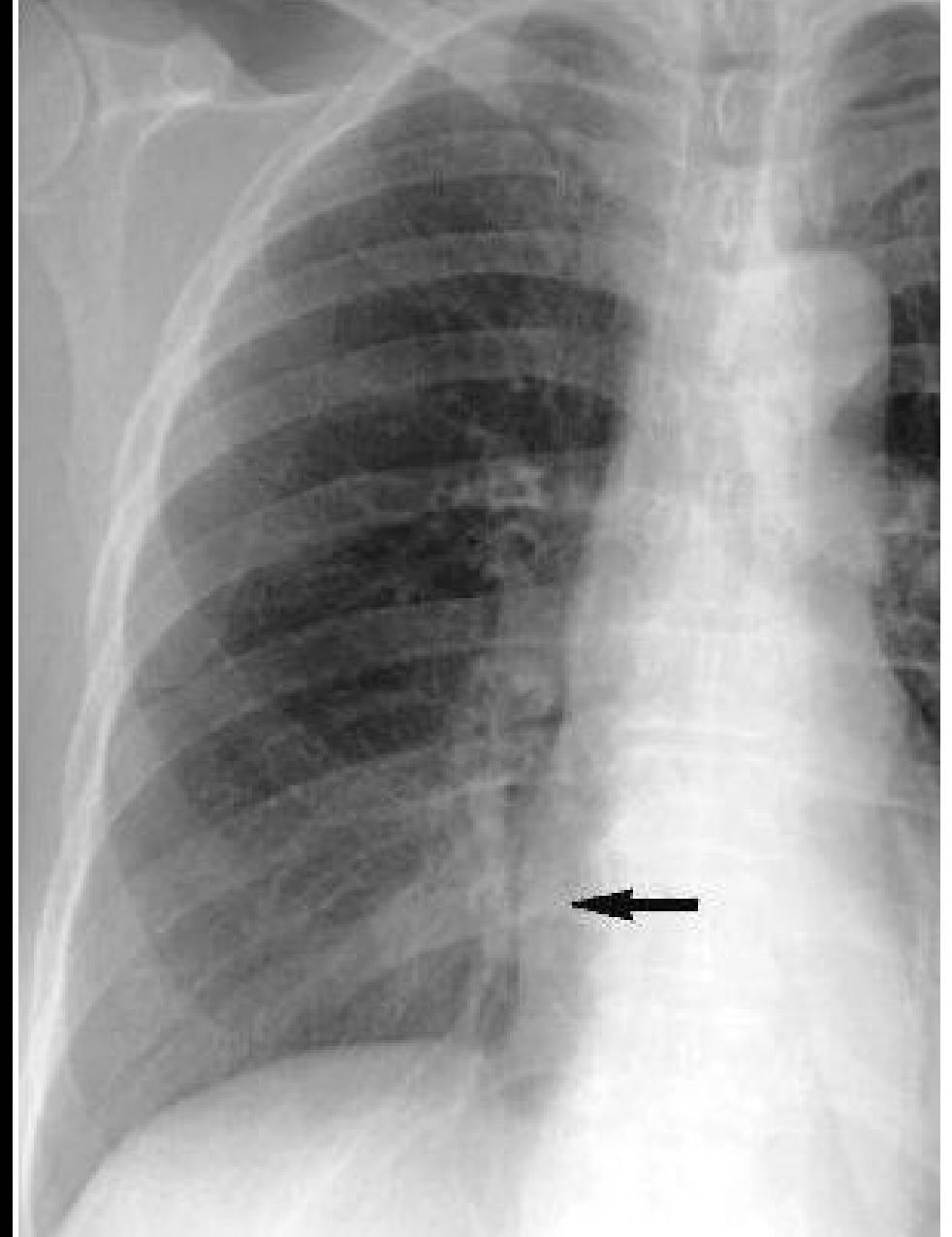


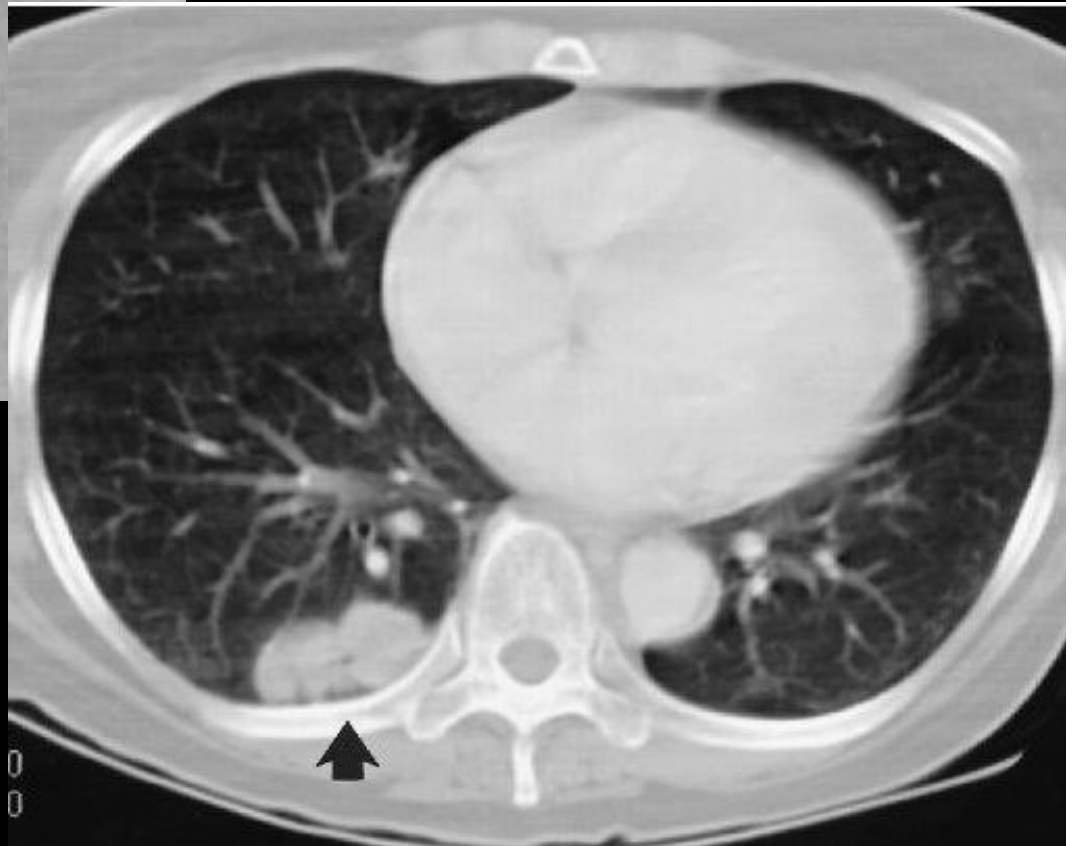
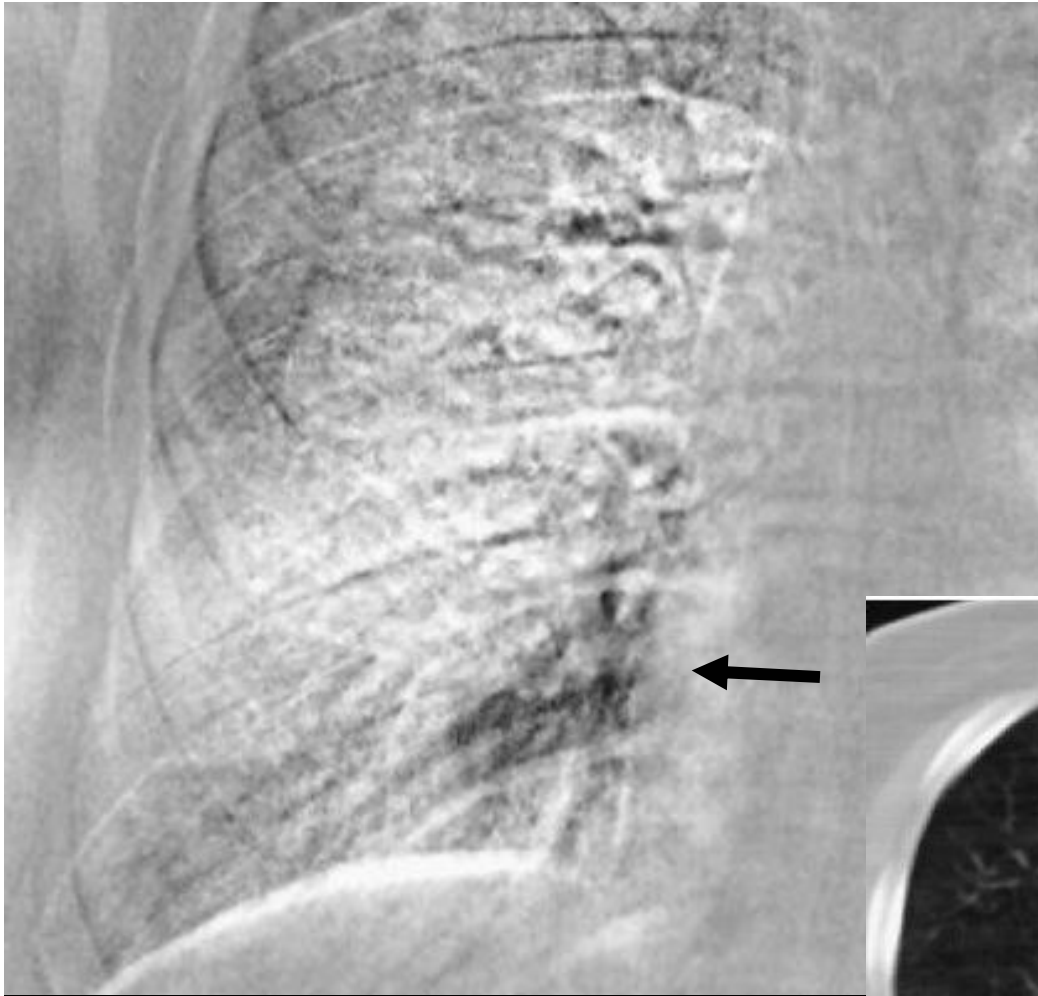






TEMPORAL SUBTRACTION

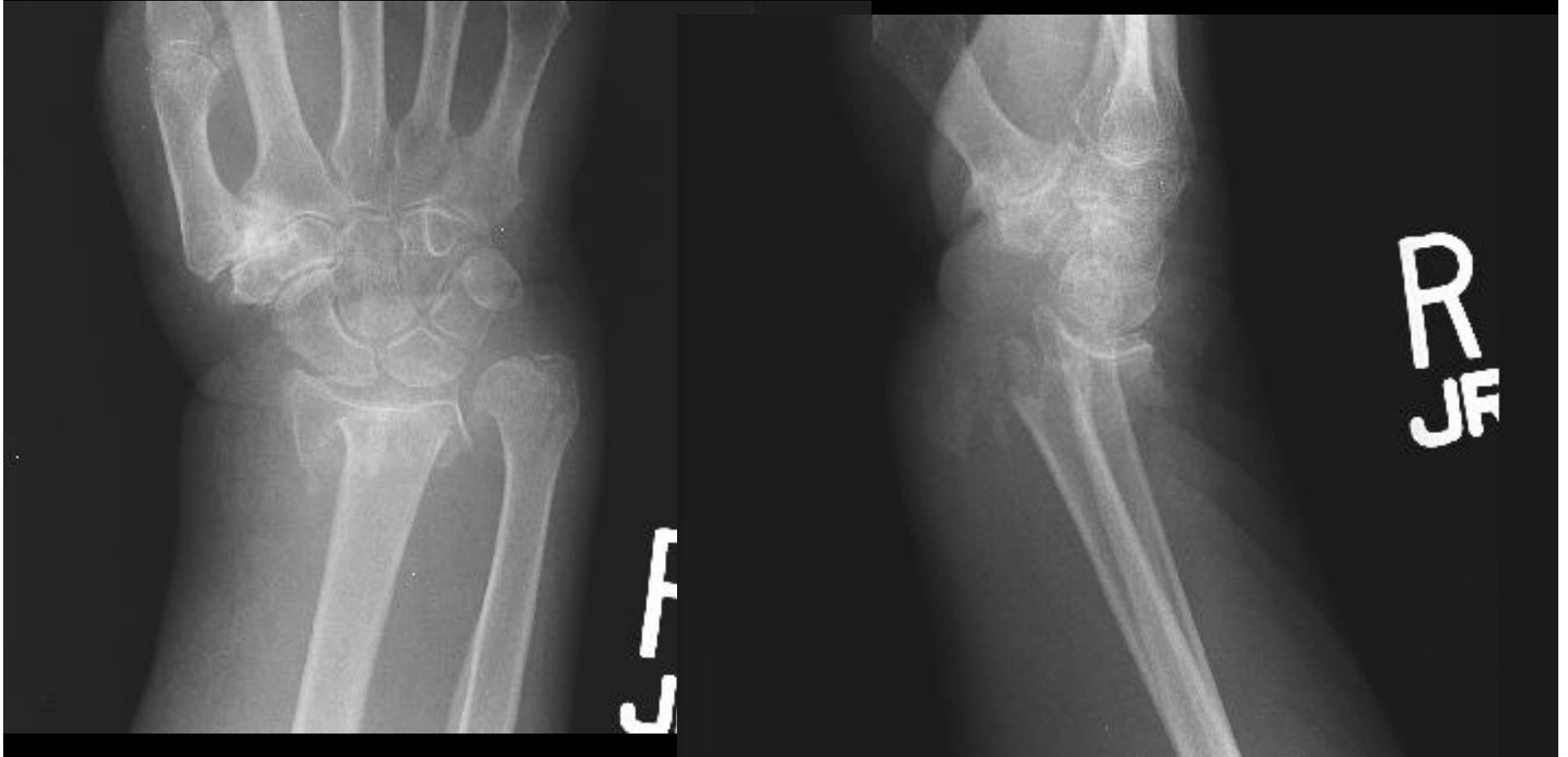




CURRENT ROLE OF SKELETAL RADIOGRAPHY

- EVALUATION OF ACUTE TRAUMA
- FRACTURE FOLLOWUP (healing?)
- POSTOPERATIVE STATUS (JOINT REPLACEMENT, FIXATION HARDWARE)
- EVALUATION OF BONE TUMORS, ARTHRITIS (DDX)

COLLES FRACTURE



BOXER'S FRACTURE

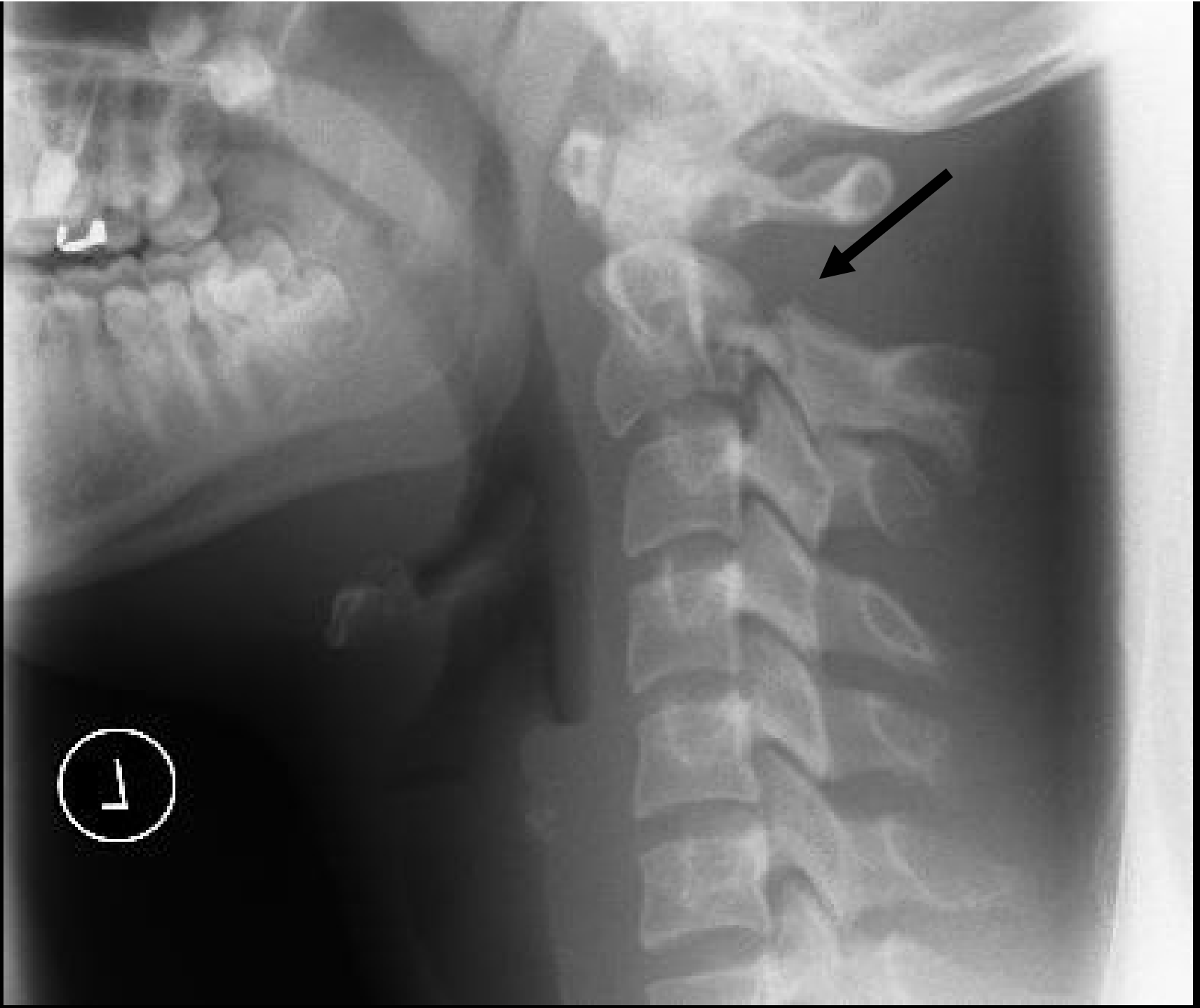


FDK



FDK

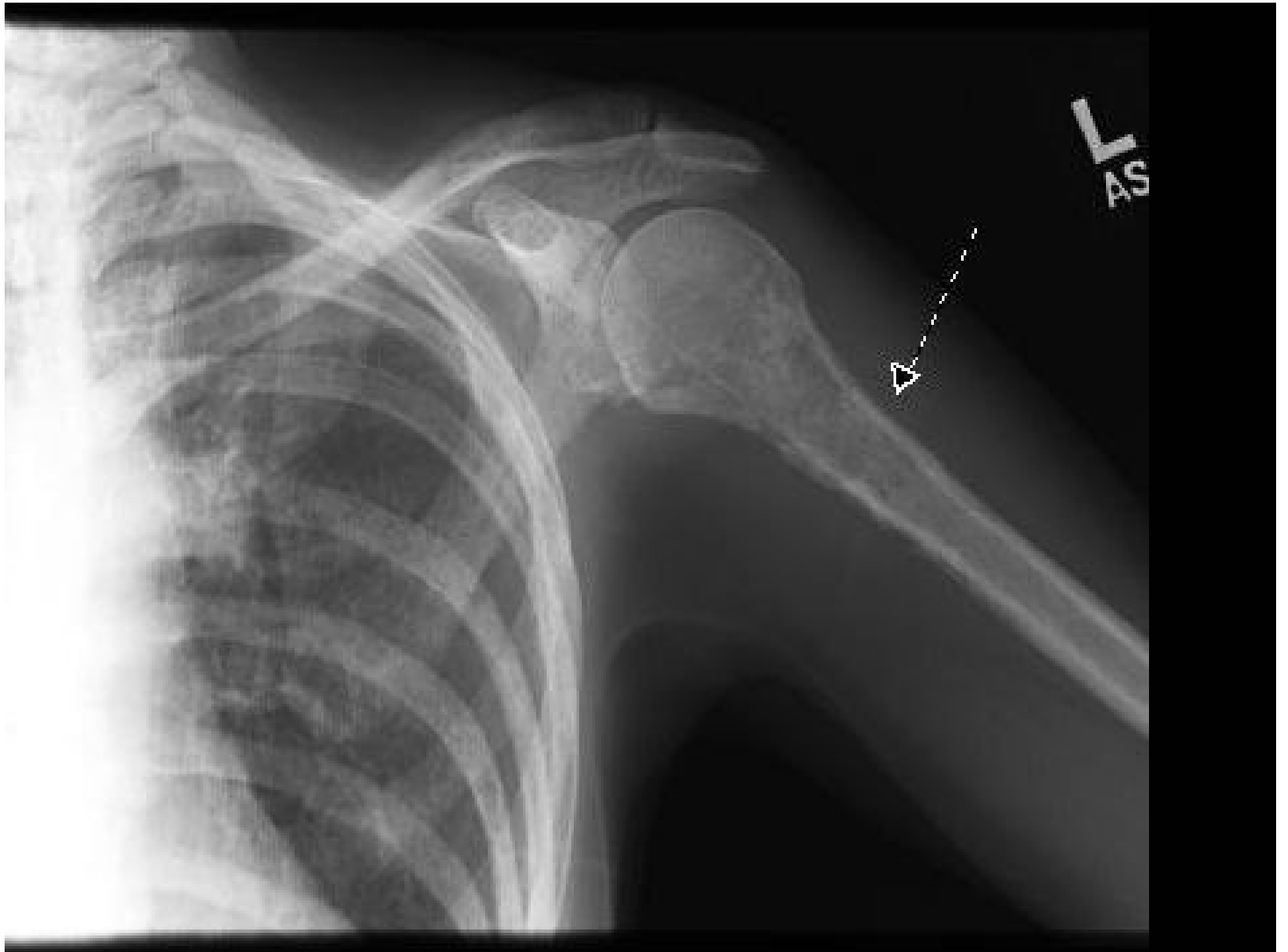






METASTATIC BREAST CANCER





BENIGN BONE CYST



BONE INFARCTS



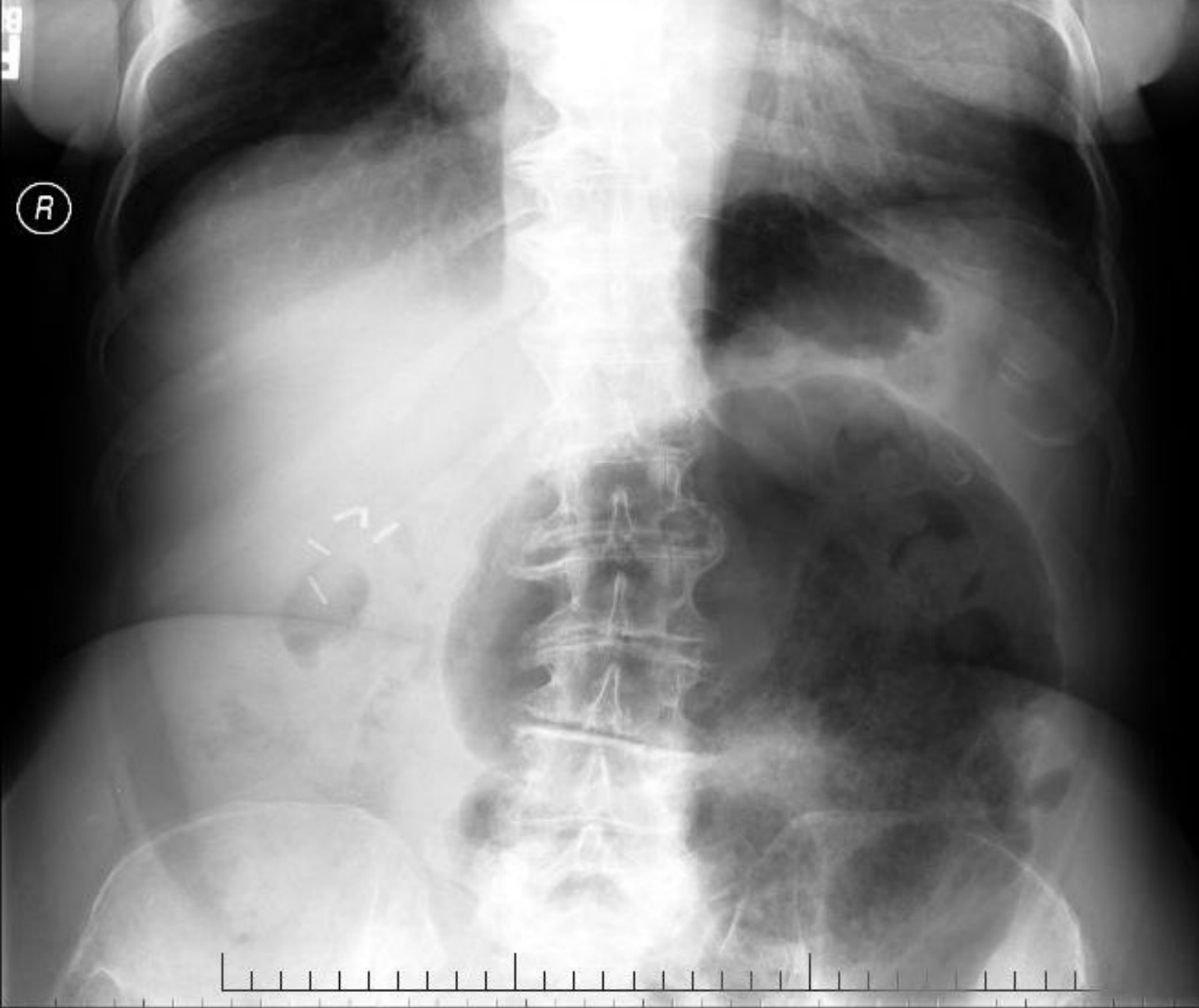


ABDOMINAL RADIOGRAPHY

- DECLINING USE (CT)
- BOWEL OBSTRUCTION
- NGT/FEEDING TUBE POSITION
- PEDIATRICS (NEC, TUBES/LINES)
- DECLINING USE FOR RENAL STONE DISEASE (CT)

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R





CECAL VOLVULUS



FUTURE ROLE OF MSK RADIOGRAPHY

- CONTINUED IMPORTANCE IN EXTREMITY TRAUMA/ORTHOPEDICS
- BONE TUMOR DDX
- DIMINISHED ROLE IN SPINE TRAUMA/INCREASED RELIANCE ON MULTIROW DETECTOR CT

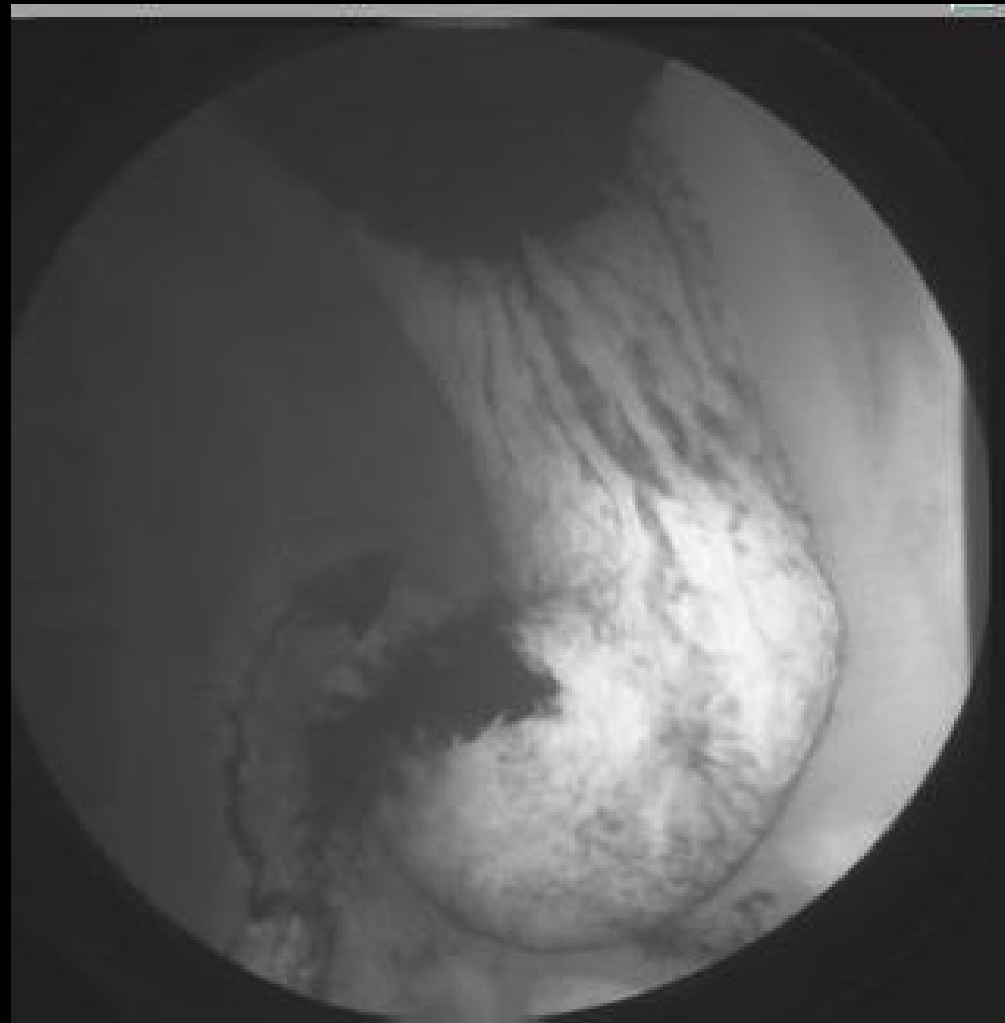
CURRENT ROLE OF FLOUROSCOPY



CURRENT ROLES OF FLUOROSCOPY

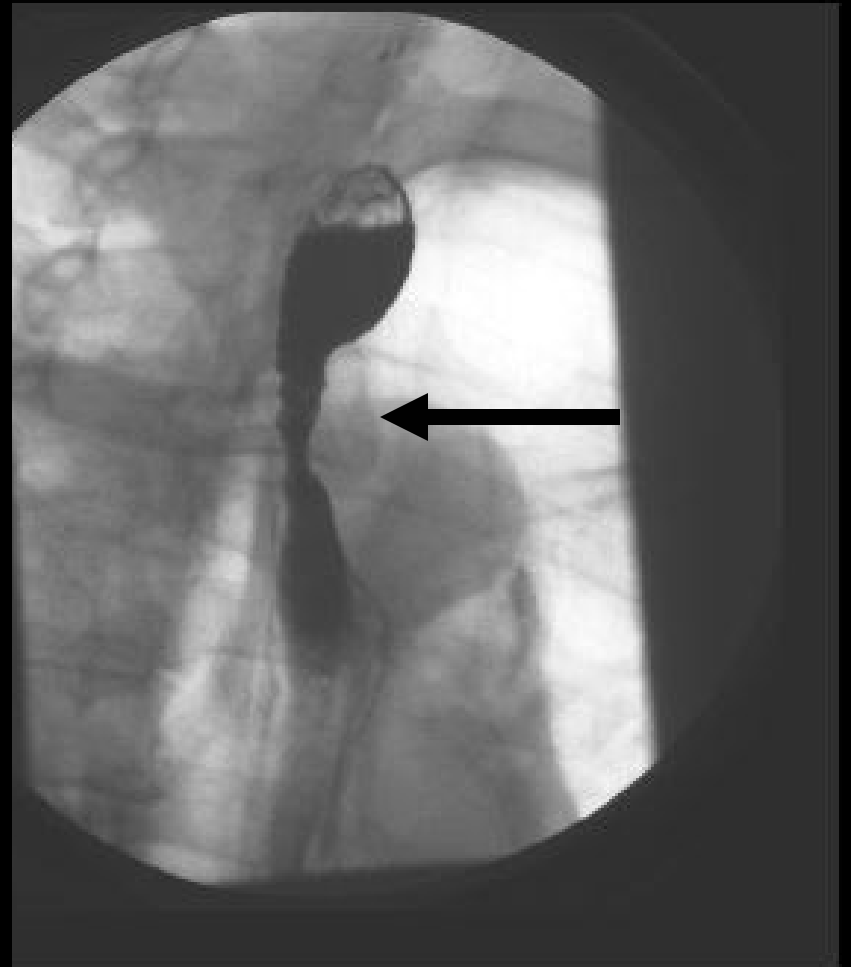
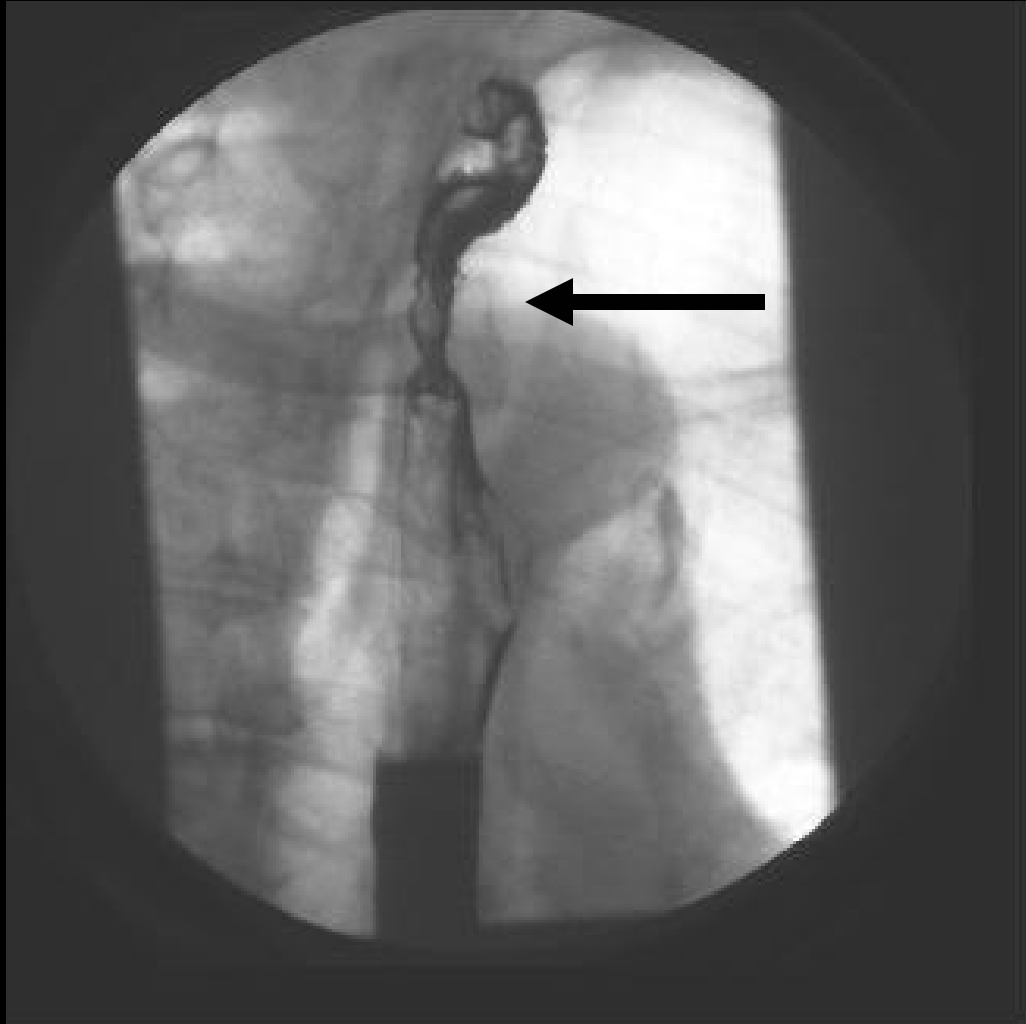
- GI LUMINAL STUDIES (“BARIUM WORK”)
- PROCEDURES (joint injections/aspirations, arthrography, vascular interventions, tumor therapy, new techniques... ie vertebroplasty, fibroid embolization)

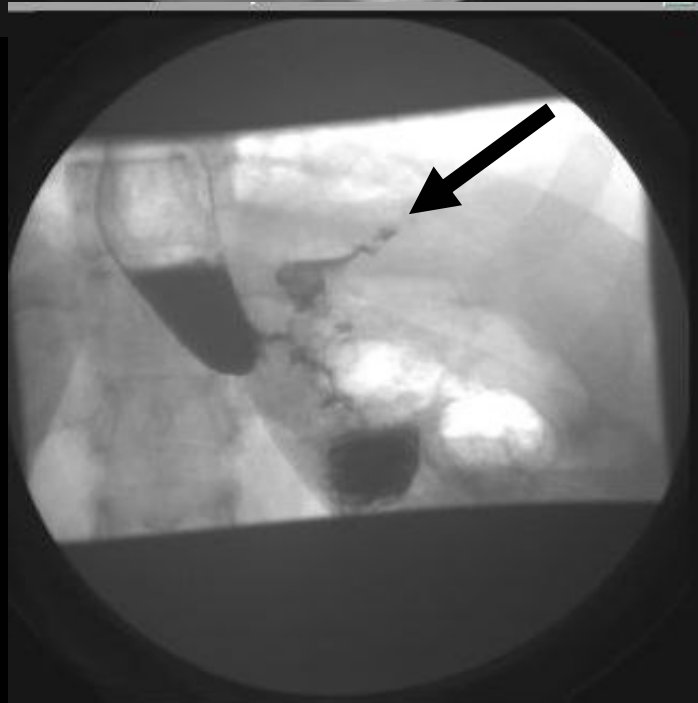
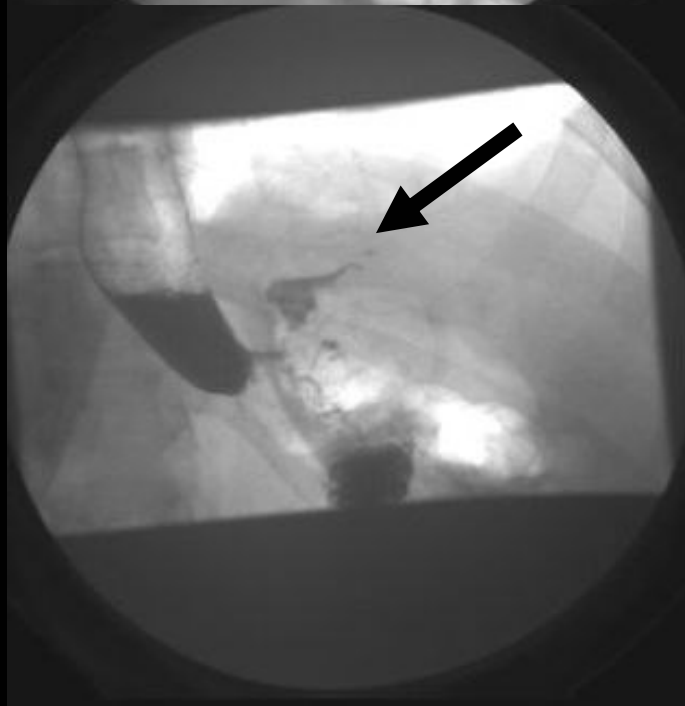
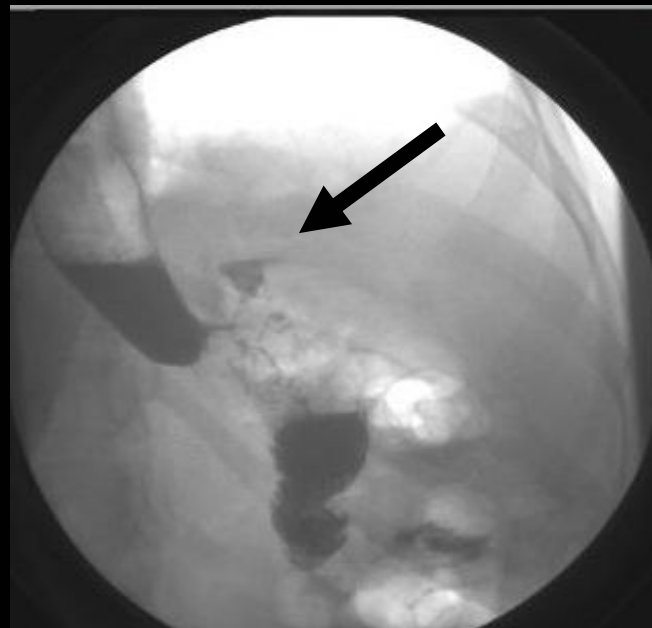
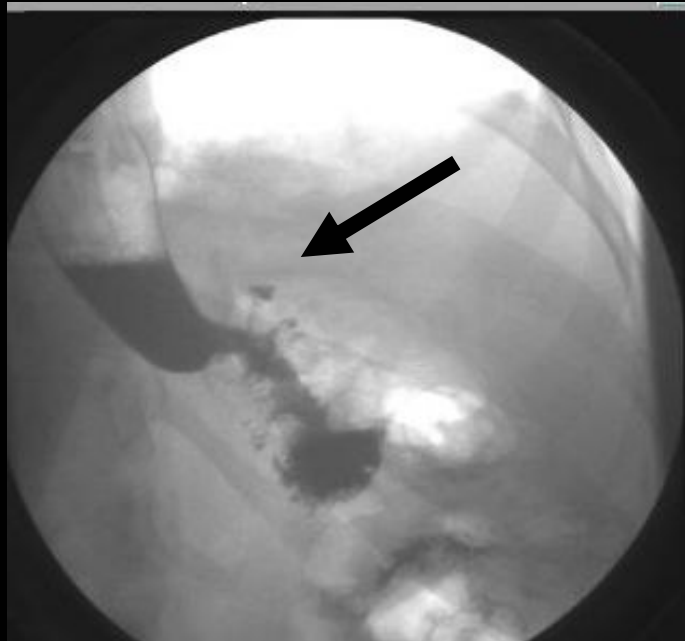
UPPER GI EXAM



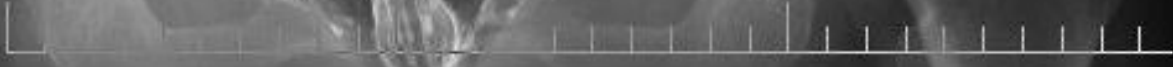


ESOPHAGEAL CANCER



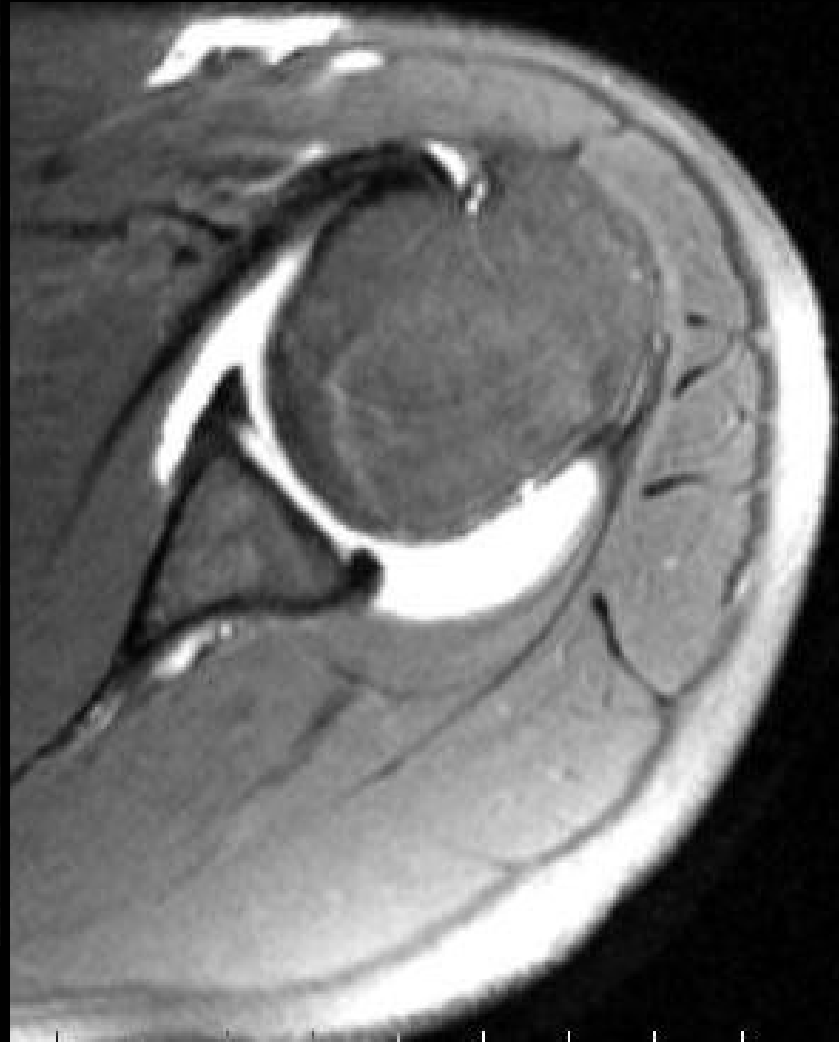
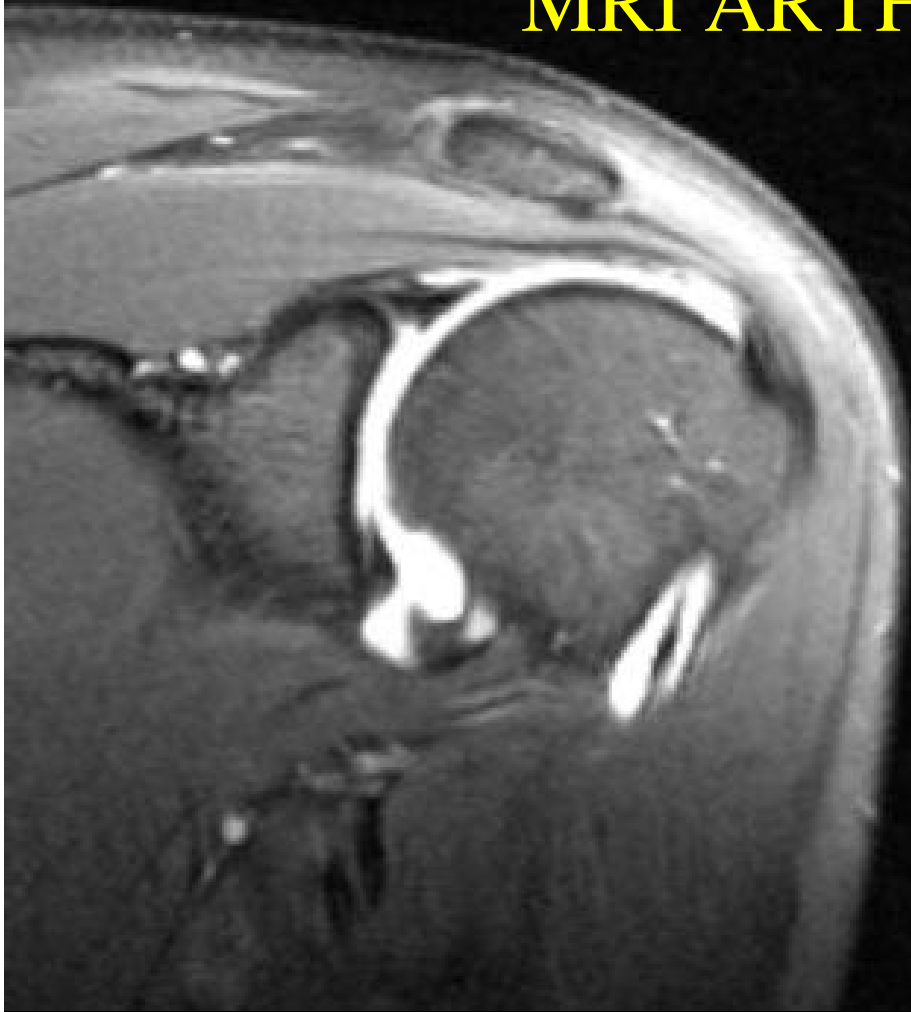


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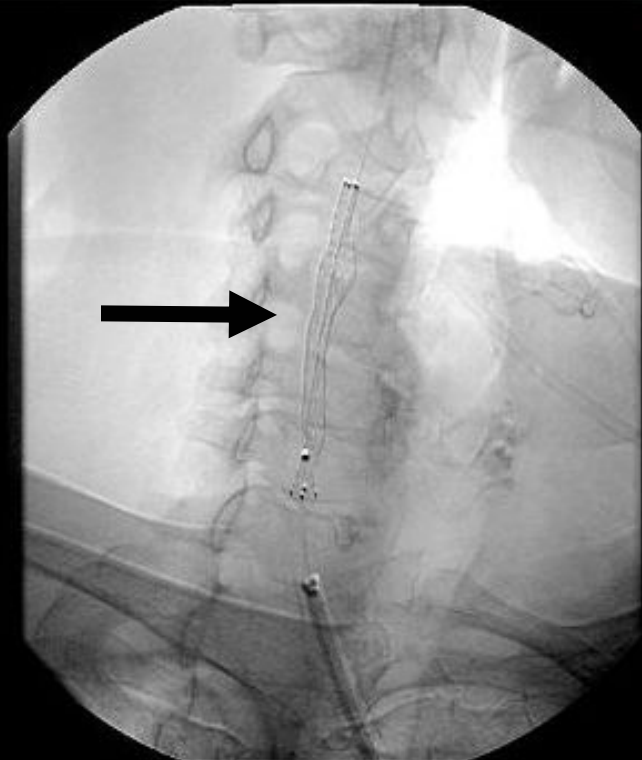
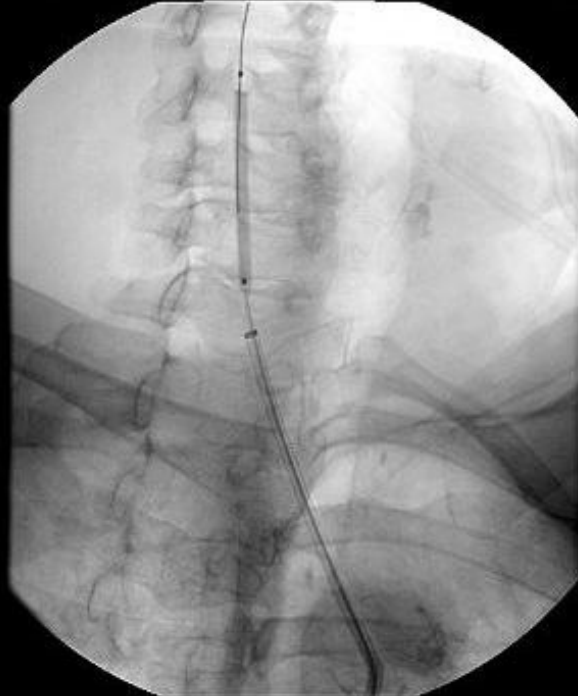


MRI ARTHROGRAPHY



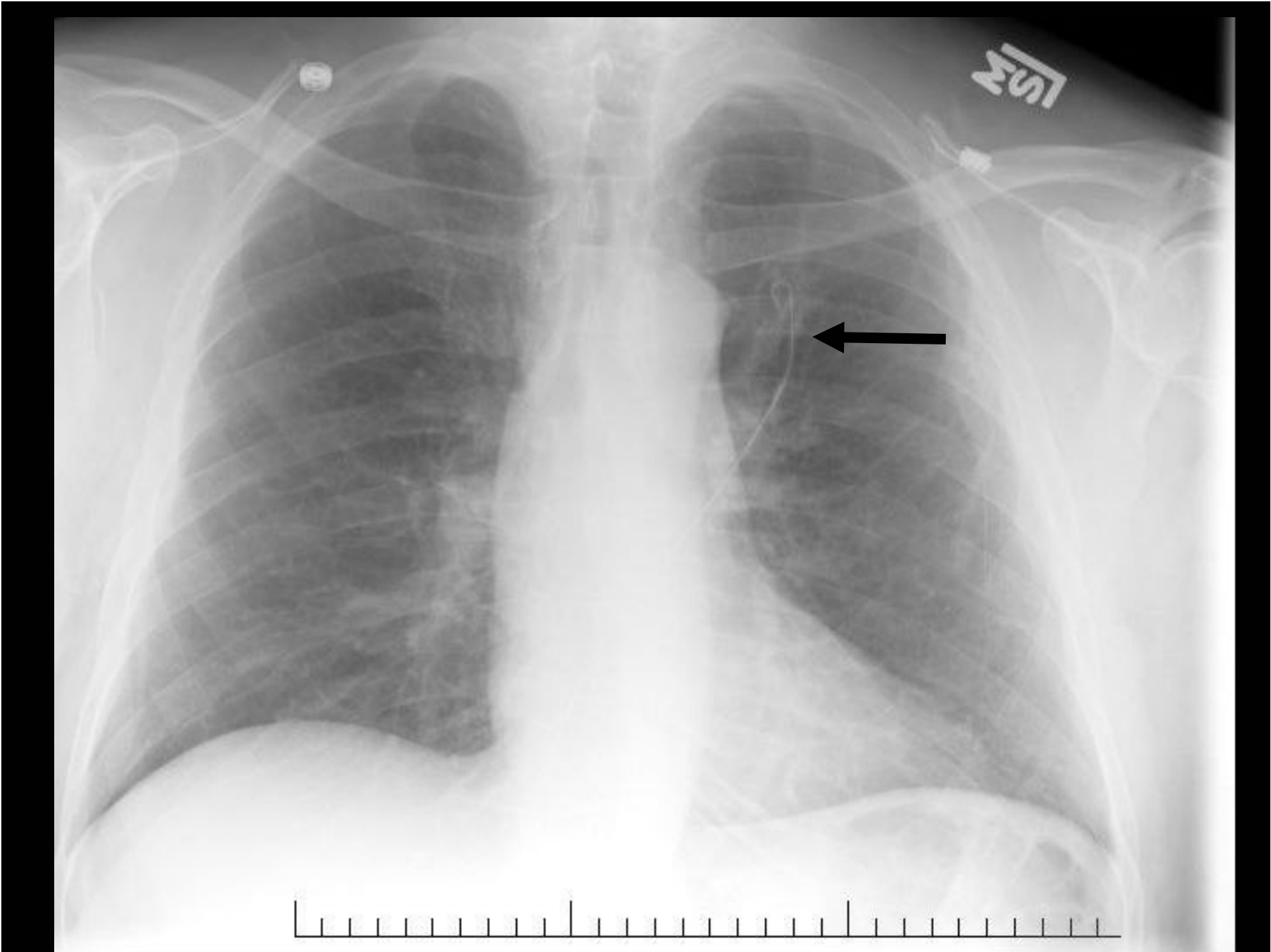


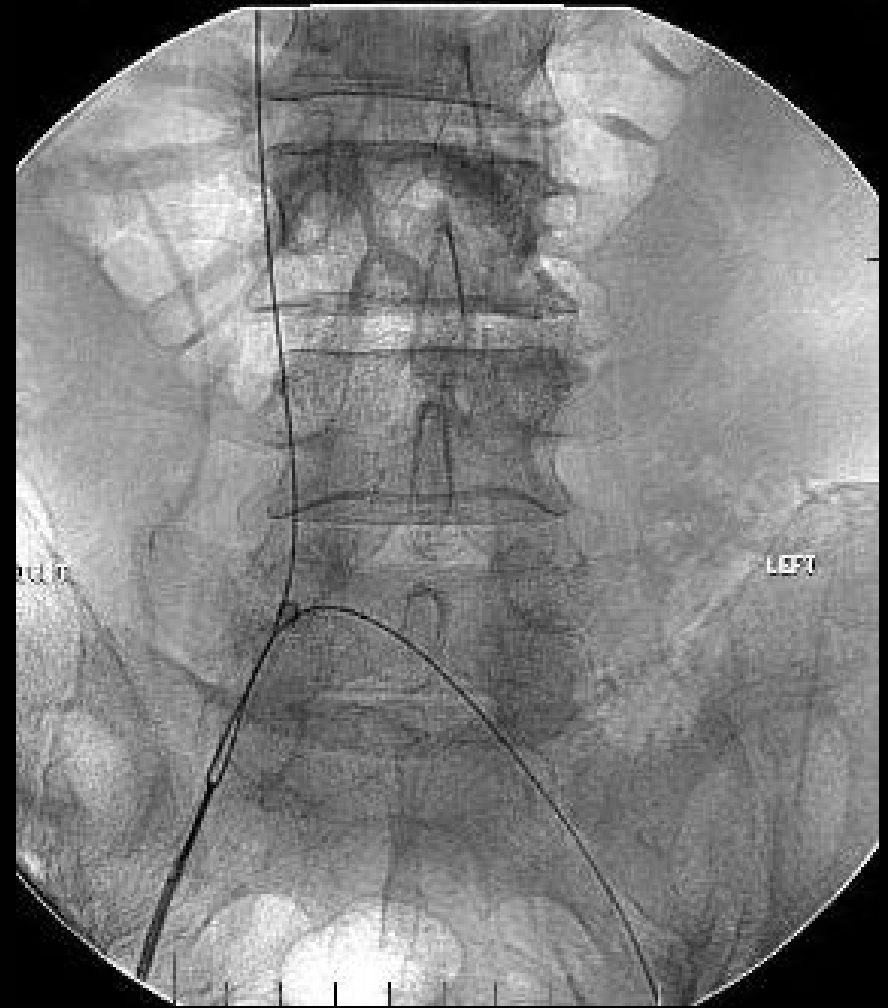
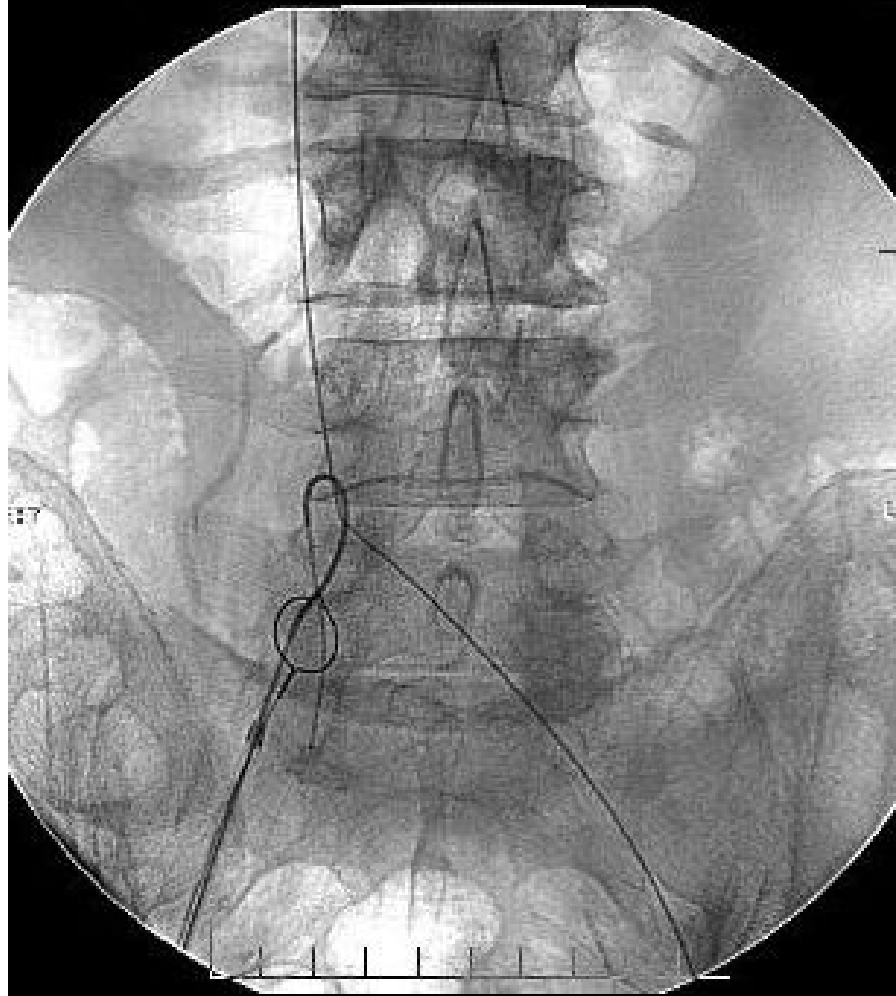




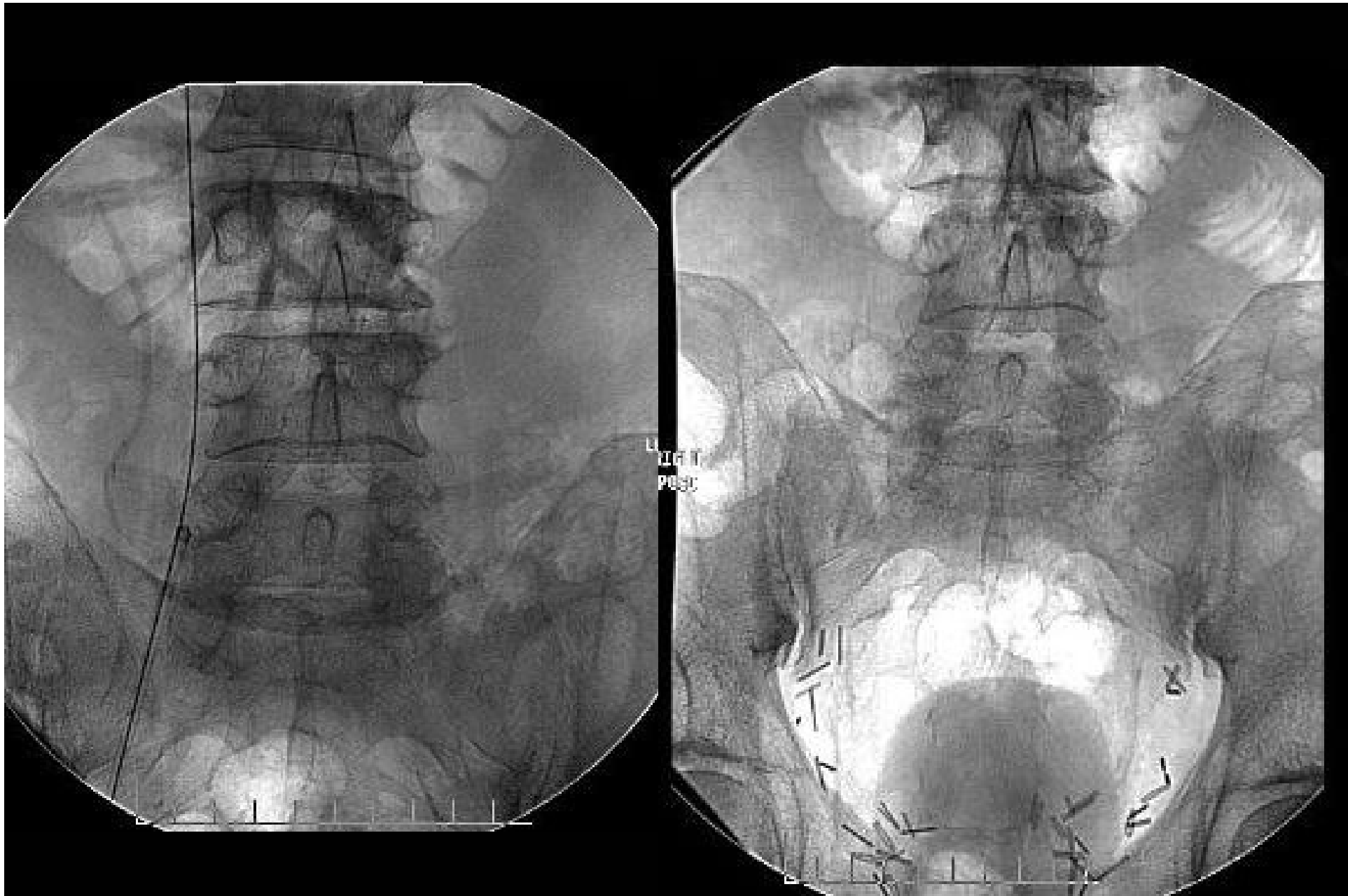


Lancet. 2001 Jun 2;357(9270):1729-37





FOREIGN BODY RETRIEVAL

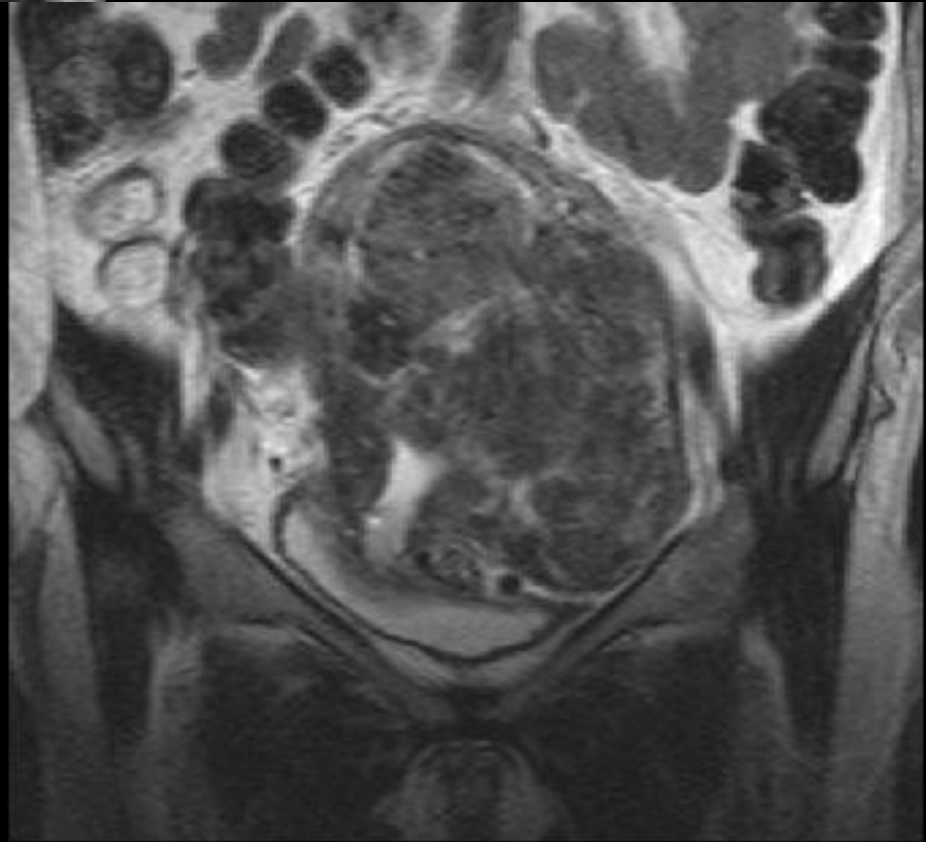
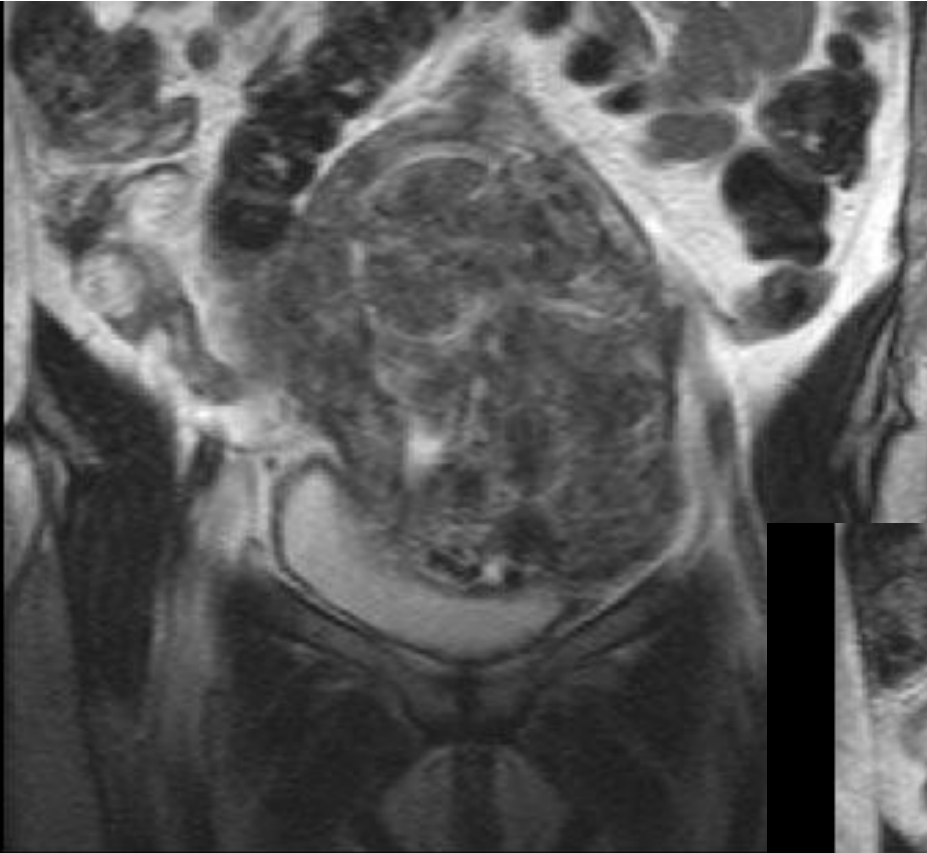


FOREIGN BODY RETRIEVED



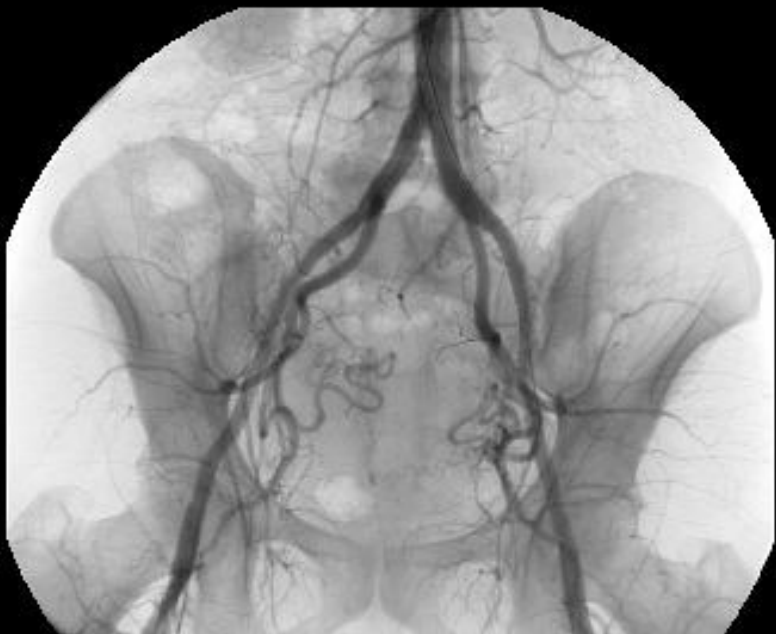
VERTEBROPLASTY



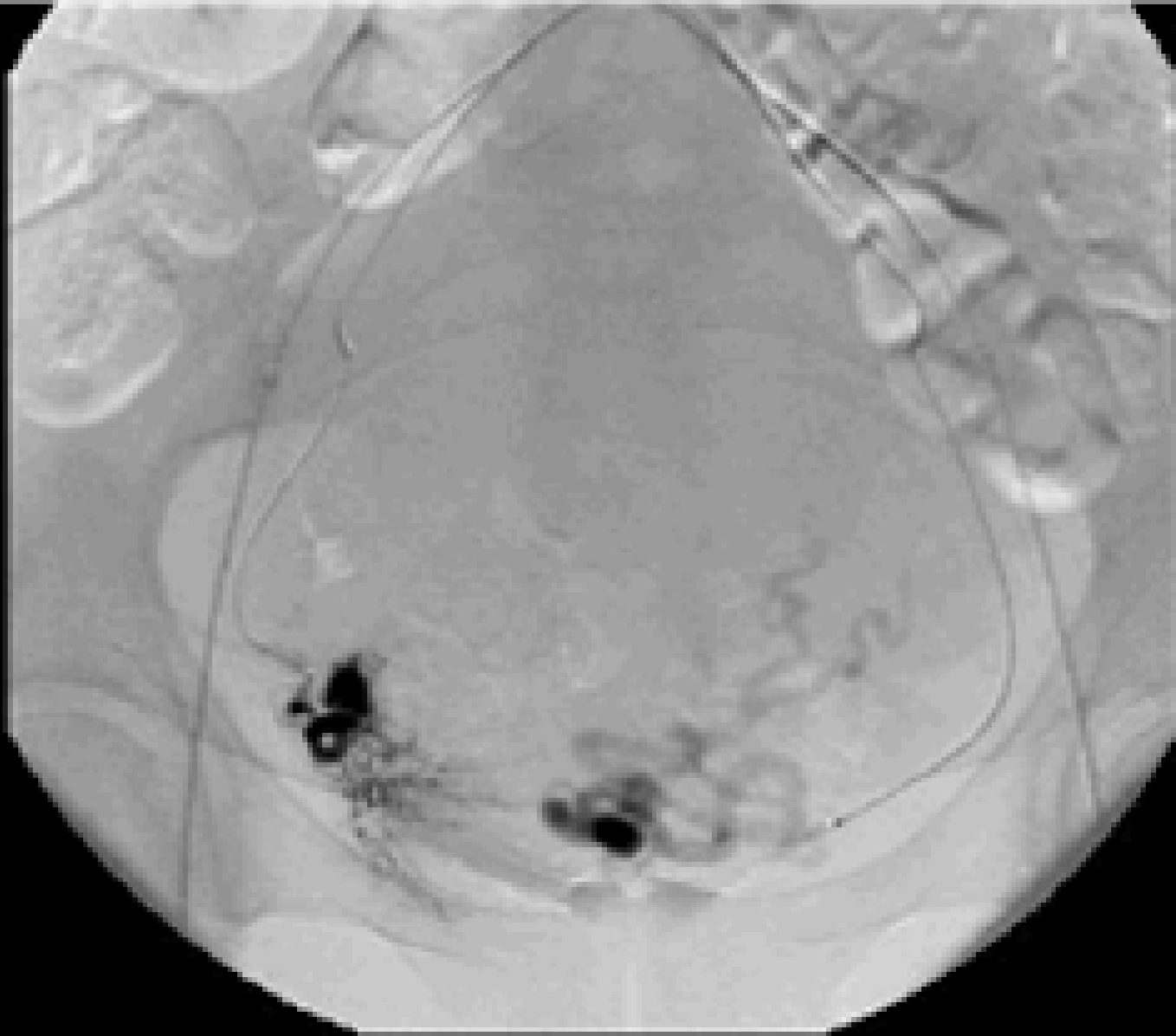


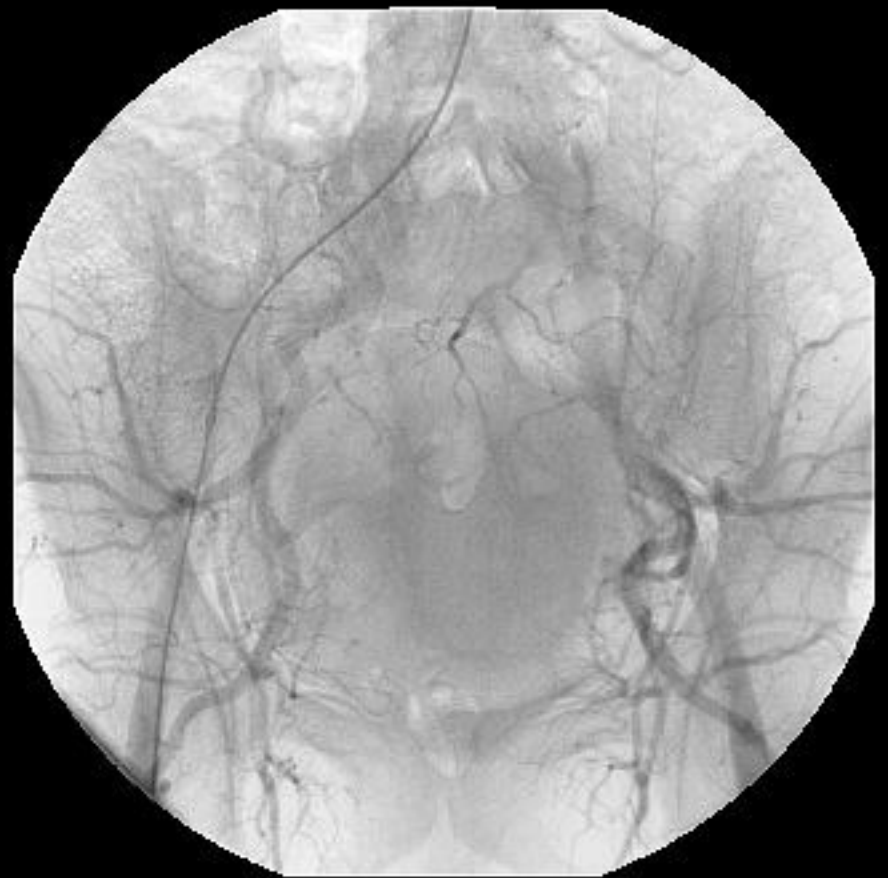
UTERINE FIBROIDS



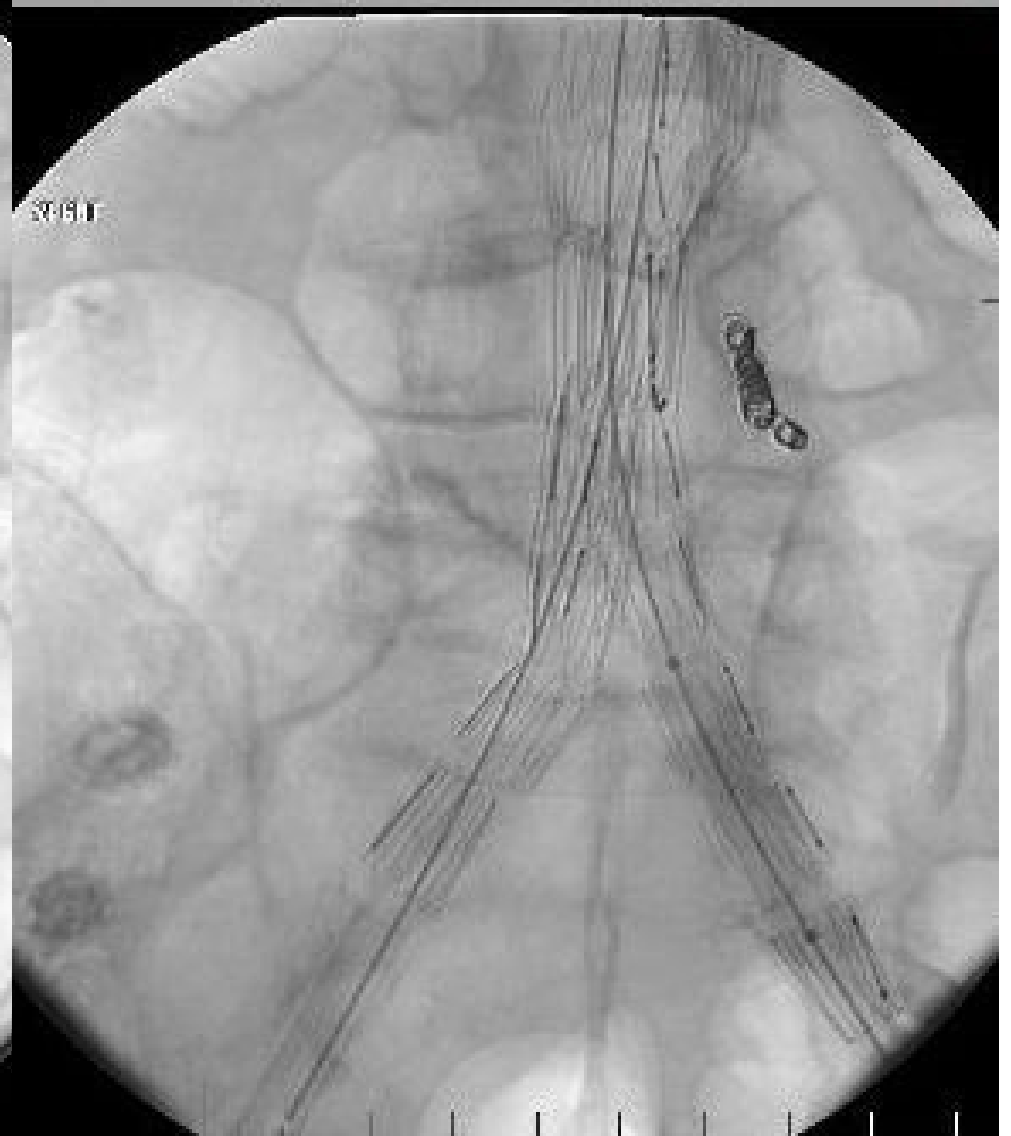


FIBROID EMBOLIZATION





AORTIC STENT GRAFTS





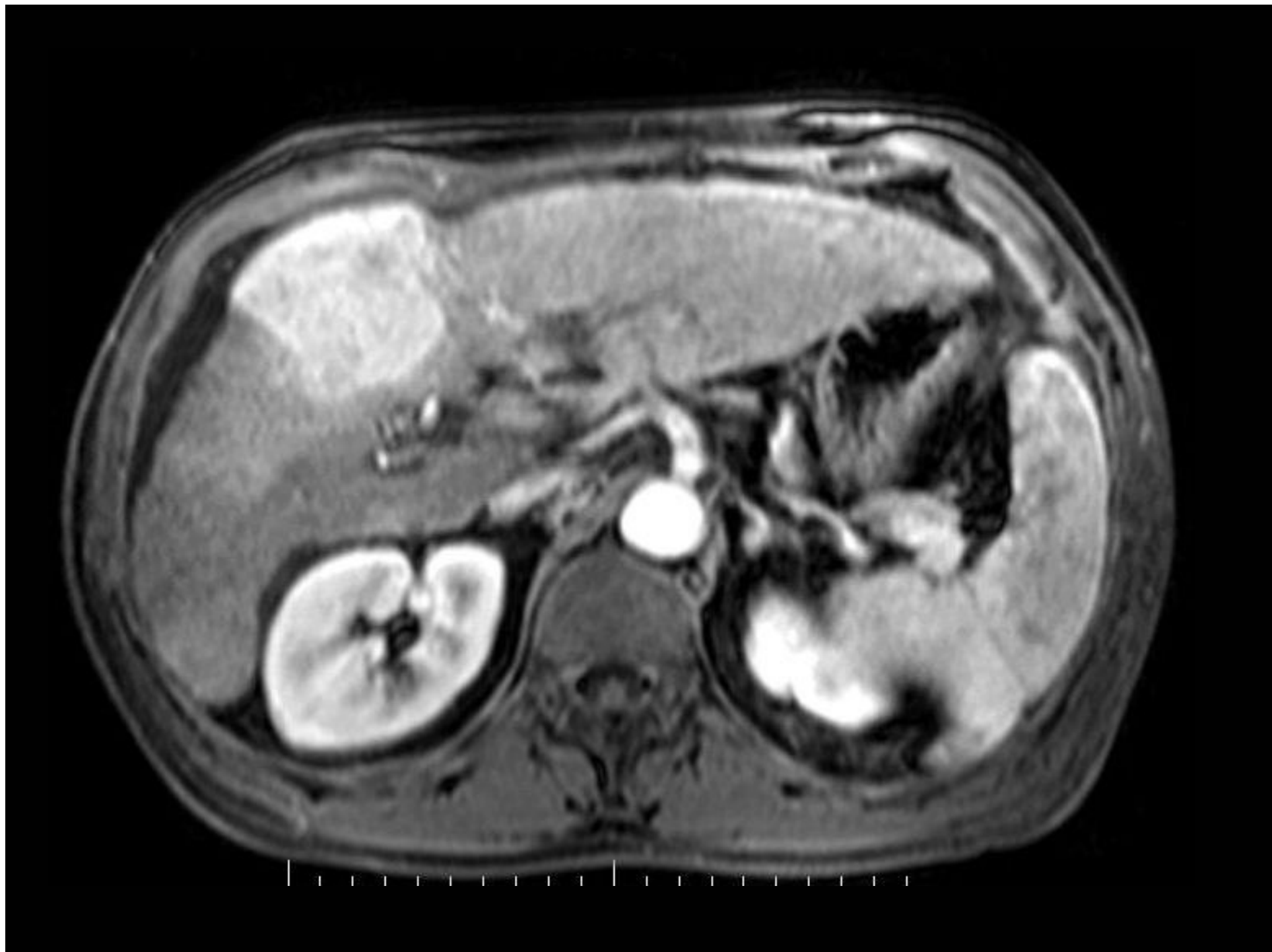
HYSTEOSALPINGOGRAPHY

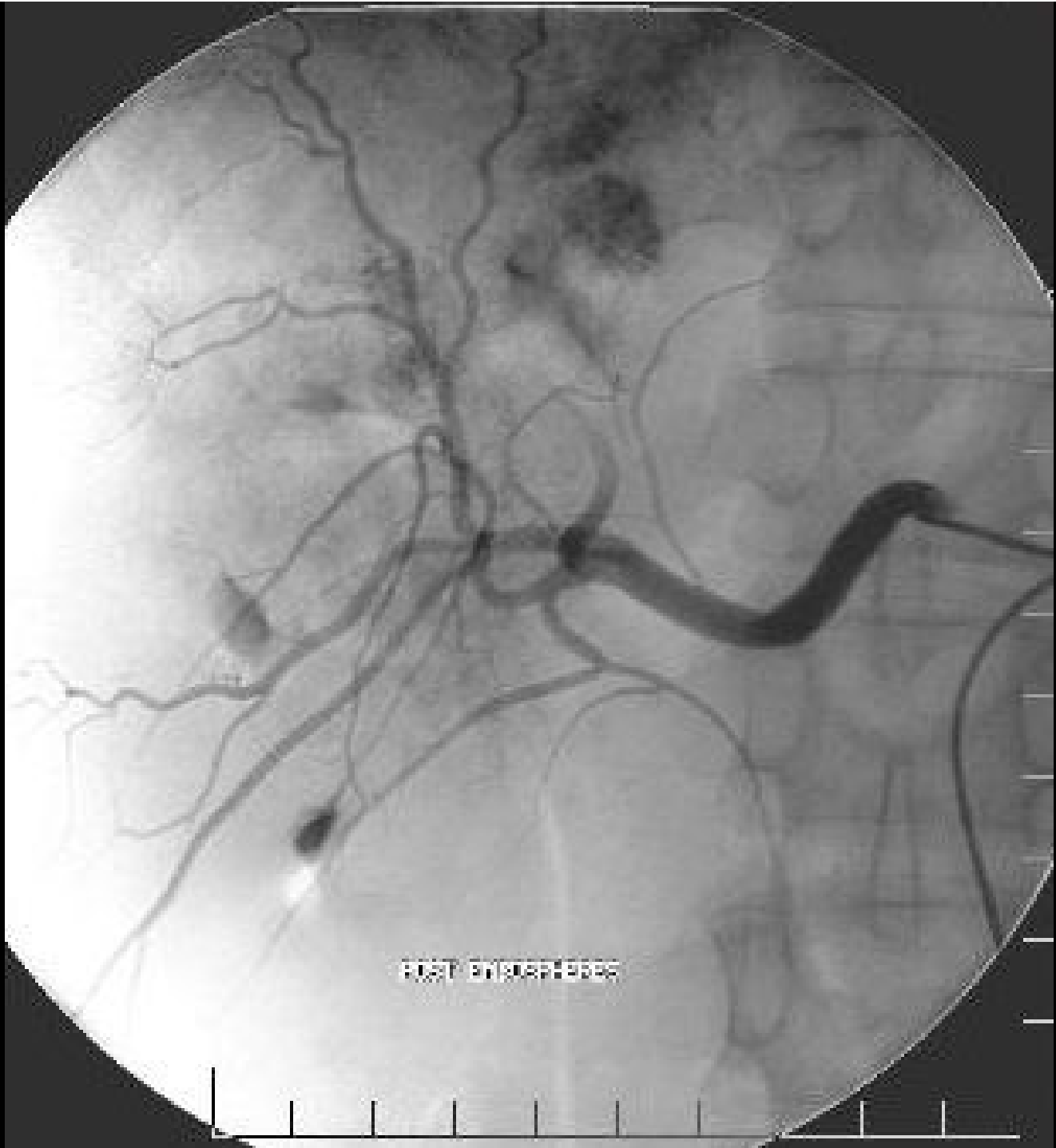






**TUBAL
OCCLUSION**





POST BYOSPHERE



SUMMARY: FLUOROSCOPY

- PRIMARILY FOR PROCEDURE GUIDANCE (DIAGNOSTIC & THERAPEUTIC)
- SWALLOWING STUDIES/STRICTURE EVALUATION
- POSTOPERATIVE GI STUDIES

SUMMARY: RADIOGRAPHY

- MOSTLY CHEST AND MSK USES
- CHEST RADIOGRAPHY FOR ACUTE RESPIRATORY ILLNESS EVAL.
INCREASING ROLE OF DIGITAL RADIOGRAPHY TECHNIQUES; ? ROLE SCREENING FOR LUNG CANCER
- SKELETAL RADIOGRAPHY FOR TRAUMA CARE/ORTHOPEDIC SURGERY/HARDWARE, BONE TUMOR EVAL.

THANK YOU