CLINICAL ROLES FOR RADIOGRAPHY AND FLUOROSCOPY

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OVERVIEW

• CURRENT CLINICAL USES OF RADIOGRAPHY & FLUOROSCOPY

• FUTURE APPLICATIONS/TRENDS
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
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)]
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
ABDOMINAL RADIOGRAPHY

- DECLINING USE (CT)
- BOWEL OBSTRUCTION
- NGT/FEEDING TUBE POSITION
- PEDIATRICS (NEC, TUBES/LINES)
- DECLINING USE FOR RENAL STONE DISEASE (CT)
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
FOREIGN BODY RETRIEVAL
FOREIGN BODY RETRIEVED
VERTEBROPLASTY
UTERINE FIBROIDS
FIBROID EMBOLIZATION
TUBAL OCCLUSION
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