

I. Equipment

- a. Lead ruler (taped to the center of the table, under the cushion)

II. Personnel

- a. Radiologist/RA
 - i. Responsible for imaging
 - ii. Gives breathing instructions
- b. Hospital Technologist
 - i. Documents patient history and pregnancy status prior to exam
 - ii. Reviews order with RA/radiologist
 - iii. Assists the radiologist or RA during procedure
 - iv. Provides patient and floor nurse with aftercare instructions

III. Procedure

- a. With the patient either **standing (preferred)** or supine, perform AP fluoroscopy of the diaphragm at rest
- b. Have the patient take a deep breath in and blow all the air out (fluoro loop store or take spot images at peak inspiration and peak expiration)
- c. Repeat bilaterally
- d. Instruct patient to take a few quick breaths in through nose (SNIFF) causing rapid inspiration (fluoro loop store if possible)
- e. If patient is able to stand, repeat sniffing in the lateral projection to evaluate posterior hemidiaphragms

IV. Required Images

- a. Fluoro loop store bilateral hemidiaphragms
 - i. Deep inspiration
 - ii. Complete expiration
 - iii. Sniffing

V. Documentation

- a. Measure inferior hemi diaphragmatic excursion bilaterally (document #cm of movement)
- b. Document paradoxical motion

VI. Special Considerations

- a. Ventilator dependence
 - i. Respiratory therapist to assist
 - ii. Observe motion of the diaphragm with the ventilator attached
 - iii. With ventilator disconnected- record a few spontaneous deep breaths before resuming mechanical ventilation
 - iv. Do not attempt sniffing or lateral views
- b. Tracheostomy (able to breath without ventilator)
 - i. Patient may use a finger to partially occlude tracheostomy tube during forceful inspiration to replicate sniffing

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[Sniff test | Radiology Reference Article | Radiopaedia.org](#)

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