

Spirometry Quality Checklist

Before you begin, ensure:

1. Patient's correct date of birth, gender, and height are entered
2. Patient is sitting to perform the spirometry test
3. Calibrate machine (if necessary)
4. You have fully explained the procedure to the patient

Activities to avoid before spirometry test:

- Smoking within 1 hour
- Consuming alcohol within 4 hours
- Performing vigorous exercise within 30 minutes
- Wearing restrictive clothing
- Eating large meal within 2 hours
- Having myocardial infarction in previous month

Spirogram MUST have:

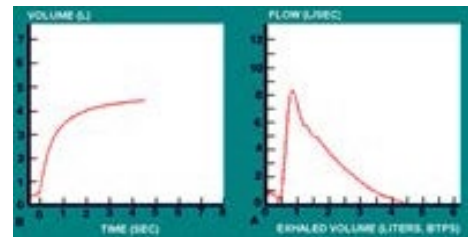
1. Good clean start; rapid rise to peak
2. Extrapolated volume <5% of FVC or 150 ml
3. Plateau in volume / time curve (no change in volume in 1 sec)
4. Exhalation of >6 sec for age >10 yrs
5. Exhalation of >3 sec for age <10 yrs

Efforts are NOT acceptable*, if the test has:

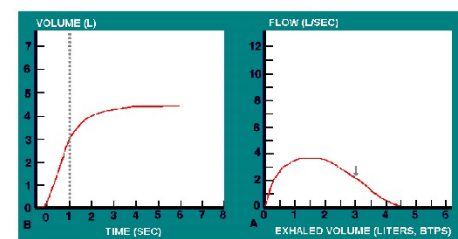
1. Submaximal effort
2. Early termination or cut off
3. Hesitation/slow start at beginning
4. Cough during the first second of exhalation
5. Obstructed mouthpiece
6. Leak
7. Glottis closure
8. Baseline error—baseline shift
9. Extra breath

Contraindications for Spirometry include:

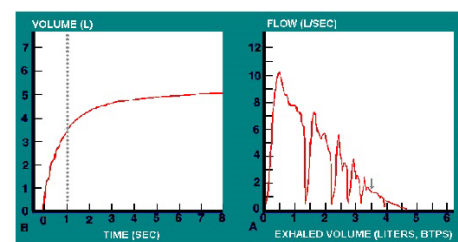
- Acute myocardial infarction within 1 week
- Hyper- or hypo-tension
- Eye surgery within 1 week
- Sinus/middle ear infection
- Pneumothorax
- Transmissible respiratory infections



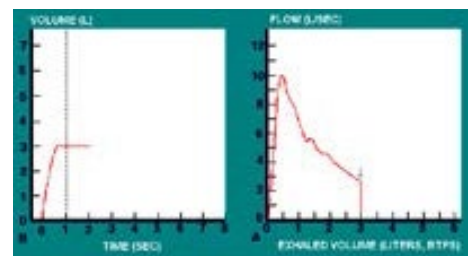
Gold Standard



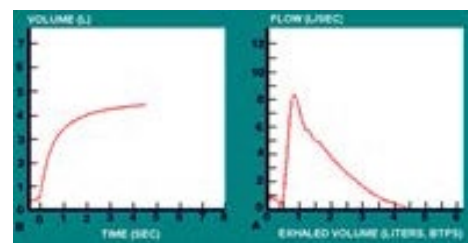
Submaximal Effort



Coughing During the First Second



Premature Termination



Slow Start

*Data for most common spirometry mistakes provided by Ed Corazalla, MS, RPFT, Director, University of Minnesota Pulmonary Lab. Data is from 236 spirometry tests conducted by 49 spirometry techs in allergy (60%) and primary care (40%) practices from 2002-2012. Of the 236 tests reviewed, 196 (83%) did NOT meet ATS criteria for three acceptable maneuvers. Thank you to QRS for providing the spirometry flow loop pictures.