



WEB FIG.1 Normal infant pulmonary function test graphs; (a) Tidal breathing flow Volume loop (TBFVL); (b) Rapid thoracoabdominal compression (RTC); and (c) Raised volume rapid thoracoabdominal compression (RVRTC).

WEB TABLE I INFANT PULMONARY FUNCTION TEST INDICES AND THEIR PHYSIOLOGICAL INTERPRETATION

| <i>Indices</i> | <i>Unit</i> | <i>Physiological interpretation</i> |
|--|-------------|---|
| <i>Tidal breathing flow volume loop</i> | | |
| • Inspiratory time (t_I), Expiratory time (t_E), Total respiratory time (t_{tot}), time to peak tidal inspiratory or expiratory flow (t_{PTIF} or t_{PTEF}) | s | Time taken to complete individual maneuvers |
| • Tidal volume (V_T), Inspiratory or Expiratory tidal volume (V_I or V_E) | mL | Tidal lung volume |
| • Peak tidal inspiratory or expiratory flow (PTIF or PTEF) | mL/s | Flow rate |
| • Mid tidal inspiratory or expiratory flow (MTIF or MTEF) | | |
| • Tidal expiratory flow (TEF) at 75, 50, 25 or 10% of tidal expiratory volume still have to be expired (TEF ₇₅ , TEF ₅₀ , TEF ₂₅ or TEF ₁₀) | | |
| • Ratio of inspiratory or expiratory time to total respiratory time (t_I/t_{tot} or t_E/t_{tot}), inspiratory to expiratory time (t_I/t_E), | % | Represent airway resistance |
| • Peak ratio: time to PTEF to t_E (t_{PTEF}/t_E) | | |
| • Ratio of exhaled Volume to PTEF to tidal expiratory volume (V_{PTEF}/V_E) | | |
| • Ratio of TEF ₇₅ , TEF ₅₀ , TEF ₂₅ or TEF ₁₀ to Peaked tidal expiratory flow (PTEF) | | |
| <i>Rapid thoracoabdominal compression</i> | | |
| • Maximum expiratory flow at functional residual capacity ($V'_{max,FRC}$) | mL/s | Flow rate |
| • Maximum expiratory flow at 50% or 70% of expiration (V'_{50} or V'_{70}) | | |
| • Volume to peak expiratory flow (V_{PEF}) | mL | Lung volume at partial expiratory flow- Airway resistance |
| <i>Raised volume rapid throcoabdominal compression</i> | | |
| • Forced expiratory volume (FEV), FEV at 0.5, 0.75 or 1.0s of the forced expiration (FEV _{0.5} /FEV _{0.75} /FEV _{1.0}) | mL | Forced lung volume at given time period |
| • Maximum expiratory flow at 25% or 10% of FEV (MEF ₂₅ or MEF ₁₀) | | |
| • Forced expiratory flow between 25% and 75% of FEV (FEF ₂₅₋₇₅) | mL/s | Forced flow rate –representing airway resistance. |
| • Peak expiratory flow (PEF) | | |
| • Ratio of forced expiratory volume at 0.5 s to total forced expiratory volume (FEV _{0.5} /FEV) | % | Airway obstruction |

IPFT: Infant pulmonary function testing, TBFVL: Tidal breathing flow volume loop, RTC: Rapid thoracoabdominal compression, RVRTC: Raised volume rapid thoracoabdominal compression.