Heart-lung interactions can be broadly grouped, based on three concepts that usually coexist in the clinical setting.

- First, spontaneous ventilatory efforts are exercise; they require oxygen (O2) and blood flow, thus placing demands on cardiac output and producing carbon dioxide (CO2), adding ventilatory stress on CO2 excretion.
- Second, inspiration increases lung volume above resting end-expiratory volume. Thus, some of the haemodynamic effects of ventilation may be due to changes in lung volume and chest wall expansion.
- Third, spontaneous inspiration decreases ITP, whereas positive-pressure ventilation increases ITP; thus, the differences between spontaneous ventilation and positive-pressure ventilation reflect primarily the differences in ITP swings and the energy necessary to produce them.

Changes in RV output must invariably alter LV filling, because the two ventricles are serially linked through the pulmonary vasculature.
- LV preload can also be directly altered by changes in RV end-diastolic volume. If RV volume increases, LV diastolic compliance will decrease by the mechanism of ventricular interdependence.