



Hyperinflation (Respiratory Alkalosis)

- 1) Increases intercostal and accessory muscle contraction
- 2) The flattened diaphragm begins to have an expiratory action on the rib cage
- 3) **Hypocapnea**; a reduction in PaCO₂ (↓ 40 mmHg) occurs and raises the body's pH above 7.4 which in return:
 - a. Increases sympathetic “fight and flight” responses and anxiousness
 - b. Impairs nerve conduction
 - c. Vasoconstricts peripheral and gastrointestinal vessels
 - d. Restricts circulation in cerebral cortex
 - e. Shunts blood flow peripherally
 - f. Impairs coronary arterial flow
 - g. Promotes fatigue, weakness, irregular heart rate, etc.
 - h. Impairs breathing and weakens diaphragm contractility
 - i. Increases overuse of “thoracic breathing”
 - j. Enhances peripheral neuropathic symptoms
 - k. Enhances sympathetic adrenaline activity and hypersensitivity to lights & sounds
 - l. Increases phobic dysfunction, panic attacks, restless leg syndromes, heightened vigilance, etc.
 - m. Facilitates catastrophic thinking and hypochondria

“We can easily disrupt this (pH) balance with 2 or 3 deep breaths. pH will rise from 7.4 to 7.5 or CO₂ will fall from a normal 40 to 30 or 25 in less than 30 seconds (with thoracic breathing).” *Gilbert, C. Journal of Bodywork and Movement Therapy, Jul 98.*

Laghi F, Tobin F. Disorders of the respiratory muscles. American Journal of Respiratory and Critical Care Medicine. Vol 168; 10-48 2003.