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.