APPENDIX A

RESONANCE BREATHING

Resonance breathing is essentially a reset button for your nervous system. Adults normally breathe at a rate of fifteen to eighteen breaths per minute, which ensures an adequate supply of oxygen to meet the body's energetic needs. Effective gas exchange also ensures that the blood pH is maintained at a suitable level, so that carbon dioxide can be removed from the body. Anxiety and stress often lead to slightly elevated rates of respiration, such as breathing rates of twenty or even up to twenty-five breaths per minute. When the breath speeds up but there's not a demand for faster breathing, a signal is sent to the brain that something is not right. This can lead to an activation of the fight-or-flight response of the sympathetic nervous system, and cause elevated blood pressure, inflammation,

or other imbalances (including reinforcing the cycle of anxiety). When doing resonance breathing, we consciously slow our breath down to a cycle that brings the sympathetic and parasympathetic nervous systems into equilibrium, and thereby restore balance. This rate is generally five to seven breaths per minute, with the inhalation and exhalation being completely equal, or the exhalation being just ever so slightly longer than the inhalation. This is a breathing cycle that Tibetan monks and yogis naturally fall into when they meditate.

The term *resonance* refers to when two or more things or systems come into harmony with each other. As we discussed in the chapter on breath, our inhalations and exhalations are ruled by the sympathetic and parasympathetic nervous systems, and they are never completely in balance. One will always be slightly more dominant than the other, sometimes significantly so, such as when we are sleeping and the breath slows down, or when we are in a state of high stress and the breath speeds up. Resonance breathing is the only time when the sympathetic and parasympathetic nervous systems are at a total equilibrium due to the conscious regulation of the breath. Primary among the benefits is the balancing of the baroreflex, which involves the nerves that wrap around the carotid artery and control and monitor blood pressure. While doing paced breathing, we are consciously bringing our changing breathing patterns into an even rhythm in concert with the amount of time that it takes the baroreceptors to send messages to the heart as they monitor blood pressure. There is about a five-second delay between the pressure sensed in the carotid artery and the signals sent to the heart. We are also pacing the breathing with the fluidity of the vagal brake, and at the same time slowing the brain-wave pattern down to meditative frequencies. By virtue of slow exhalations, we tone the vagus nerve and stimulate the vagal brake, which is responsible for