



# DELTA LIFE SKILLS<sup>sm</sup>



EMOTIONAL FREEDOM IS IN YOUR HANDS with REB<sup>sm</sup>

*Integral Energy Psychology*

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## **PART ONE: THE RADIANT ENERGIES BALANCE (REB)<sup>sm</sup> PROTOCOL: PHILOSOPHY/RESEARCH/THEORY BACKGROUND©**

### **Section:**

#### 17.7. Unilateral Forced Nostril Breathing (UFNB)

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#### **17.7. UNILATERAL FORCED NOSTRIL BREATHING (UFNB)**

Although the REB<sup>sm</sup> protocol doesn't explicitly use alternate nostril breathing, it could easily be incorporated. In the core REB<sup>sm</sup> documents, "Part Three: Additional approaches...", there are instructions for it.

#### **17.7.1. INTRODUCTION: BREATH IN LIFE AND HEALTH**

"...[B]reathing is a central principle in communication and healing and forms the basis of many therapeutic disciplines,... [thus we should] encourage our clinicians towards their breath and away from their machines." (Aldridge, 2001/2002, p. 122)

"By gaining control of the breath, we gain mastery of mind and body. Not only that, we also establish a connection with the world around us... through the breath... There is a variety of qualities to the breath. It has volume...; it needs to be centralized to be certain; the breath must be far reaching to be strong; it must be rhythmic to achieve balance...; and it must have depth to encourage strength. These qualities of breath -- volume, focus, reach, balance and strength -- can be trained and have ramifications for health. Furthermore, these qualities are also necessary for the efficacy of the healer. (Aldridge, 2001/2002, p. 109)

"Breath is an important factor in activating the patient. Vitality itself derives from *viva*, 'Let him live.' The breath carries such a living force. Breath and spirit share the same root, in Latin *spirare*, which later becomes *spiritus*, life breathed as the Holy Spirit... Healing is '... the intentional influence of one or more persons upon a living system without using known physical means of intervention.' The etymological roots of intention are in the Latin *tendere* that means a stretching of the mind to become attentive, with expectation. This extended attention of the mind is a dynamic process of shifting awareness to the other as an offer of contact. It is the breath that is the vehicle for this reaching out. Influence, from the Latin *influere*, is a 'flowing in.'... Healing, from this perspective, is the offer of a dynamic process the stretching of the mind of the healer that flows into the other person on the influential breath... [W]e can speculate about what we project into the world on the out-flowing breath. We understand others, and are ourselves understood, by the way in which we breathe... We influence others, and are ourselves influenced, by the flow of breath." (Aldridge, 2001/2002, pp. 111-112)

"[T]here is an understanding of healing based upon a natural breathing cycle. A cycle that becomes rhythmic when it is intended... [T]he endeavor of healing, through the intentional action of the healer, is to extend the attention of the sufferer beyond a simple cycle to a broader perspective... [I]t is based on breathing and involves a change of consciousness, and this change of consciousness is basically what is meant by transcendence.... The vehicle for psychotherapeutic efficacy may be a controlled environment of breathing where transference does take place, but this is a transference of consciousness through breath, not cognition. Indeed, the intentional control of breath is the basis of achieving changes of consciousness in various spiritual traditions." (Aldridge, 2001/2002, pp. 113-114)

"We are reviving an ancient technology of the mind [using specific patterns of breathing]... The implication of this technology is that we are not helpless victims of a given emotional state... The nose is an instrument for altering cortical activity... The nose is far more than an olfactory device. Discovering this is like finding a new sense... The brain hemispheres may be thus integrated as well as selectively activated [through breathing]. The evidence for lateralization of emotions... suggests that feelings are subject to alteration by appropriate breathing activities.' (Shannahoff-Khalsa, 1983) 'A 1986 investigation showed that alternating cycles of sympathetic and parasympathetic activity are tightly coupled with the nasal cycle: the alternating dominance of airflow through one nostril or another... The nasal mucosa is one of the most abundant tissues... innervated by both the sympathetic and parasympathetic branches of the autonomic nervous system... Forced breathing through one nostril generated contralateral EEG activity... It was almost immediate and seemed generalized across the entire hemisphere... Earlier experiments have shown that EEG activity can be triggered by air inflow through the nasal mucosa without lung involvement. Local anesthesia of the mucosa membrane counters the effects of the airflow on cortical activity." (Brain/Mind Bulletin, "Breathing cycle linked to hemispheric dominance")]

"Zajonc, of the University of Michigan, has found... that breathing through the nose cools the hypothalamus, which affects brain chemicals that influence mood. Changing the temperature of the hypothalamus may affect the release and synthesis of a variety of neurotransmitters... [T]emperature changes are known to affect all biochemical processes... The hypothalamus is involved in regulating the temperature of the brain and in controlling aggression, eating and sex, all of which have large emotional components... Changing levels of neurotransmitters such as norepinephrine and serotonin can make a person feel calm or excited, or have a depressant or antidepressant effect. 'Anything that allows you to change hypothalamic temperature will have subjective effects... And within some limits, you can change hypothalamic temperature at will.' Anything that affects a person's breathing... can affect mood... 'You breathe thorough your nose because you cannot cool the brain by

breathing through your mouth... [Breathing] 'cold air puts people in a much better mood than warm air.'" (Alder, 1990) (see also Ingber, 1981)

There are two tiny clusters of neurons in the front part of the hypothalamus (the suprachiasmatic nuclei) which are connected by a neural hotline (straight with out any synaptic connections) from the eyes. Apparently [...there are two pathways from the eyes to the brain: one for conscious vision and the other for circadian entrainment." (Strogatz, p. 100) This area of the hypothalamus is the master clock/circadian pacemaker for alertness and body temperature cycles. The body temperature cycle is a reliable marker of its actions. Alertness, sleep duration and the presence of REM (Rapid Eye Movement sleep) is regulated by this nerve center. "The propensity for REM is synchronized to the body temperature cycle, not to sleep itself... [O]ur rhythms of short-term memory, the secretion of the brain hormone melatonin, and several other cognitive and physiological functions also run at the same period and maintain constant phase relationships to the temperature cycle and to one another." (Strogatz, p. 87)

This provides a possible mechanism for the calming effect of breathing through the nose to cool the hypothalamus: when the master circadian and body temperature control center is cooled down it might send a message to the other body temperature regulators to warm up, thereby producing in turn less alertness and sleepiness. Alertness goes hand in hand with body temperature: low body temperature goes with low alertness (sleepiness) and high body temperature goes with high alertness.

#### **17.7.2. PERIPHERAL EFFECTS OF UFNB (UNILATERAL FORCED NOSTRIL BREATHING)**

"The nose and lung connection indicates that forced inhalation through one nostril produces a significant increase inflation of the opposite side lung. Sympathetic activity produces vasoconstriction in the nose but produces vasodilatation in the vessels of the lung... [R]ight nostril dominance correlates with the 'activity phase' of the BRAC [Basic Rest-Activity Cycle], the time during which sympathetic activity in general exceeds parasympathetic activity throughout the body... [R]ight UFNB reduced blink rates and... left UFNB increased involuntary blink rates... [I]ntraocular pressure can be selectively altered by UFNB patterns... [R]ight UFNB leads to a... decrease in intraocular pressure and... left UFNB increases it... This is further evidence that right UFNB increases the generalized sympathetic tone of the body, thus correlating with the 'active phase of the BRAC [Basic Rest-Activity Cycle]." (Shannahoff-Khalsa, 2001/2002, pp. 82-83)

#### **17.7.3. LEFT-RIGHT ASYMMETRY IN DISTRIBUTION OF SYMPATHETIC AND PARASYMPATHETIC (VAGAL) FIBERS TO THE HEART.**

"[T]he right sympathetic trunk via the right stellate ganglion has relatively greater effect on HR [heart rate] while the left has relatively greater effect on left ventricular function. There are also right and left vagal [parasympathetic] differences; the right vagus has a greater cardiac deceleratory effect compared to the left vagus, and right vagal transection [cut] causes a greater cardiac acceleration than left transection [cut] suggesting the right vagus exerts greater restraint on the sino-atrial (SA) node than the left vagus. And the heart period is more prolonged when a stimulus is given to the right vagus compared to the left... [T]he sympathetic nervous system drives the ultradian [daily] rhythms of the heart... [T]he ultradian rhythms of HR [heart rate] are also governed by the alternating rhythmic influences of the right and left branches of the ANS [Autonomic Nervous System] with increased HR resulting from right sympathetic with left parasympathetic dominance... [R]ight UFNB [Unilateral Forced Nostril Breathing] increases heart rate compared to

left UFNB which lowers HR... [S]troke volume is higher with left UFNB and... left UFNB also increases end diastolic volume... [R]ight UNFB produced a 37% increase in baseline oxygen consumption and... left UFNB produced a 24% increase and alternate nostril breathing increased baseline values by 18%." (Shannahoff-Khalsa, 2001/2002, p. 84-85)

#### **17.7.4. CENTRAL NERVOUS SYSTEM-COGNITIVE EFFECTS OF UFNB (UNILATERAL FORCED NOSTRIL BREATHING)**

"The [Nasal Cycle] NC is a marker of a rhythmic and alternating shift of lateralized autonomic function that co-regulates lateralized rhythms of the central nervous system (CNS)... The nasal mucosa are highly innervated with fibers from the autonomic nervous system (ANS) and the dominance of sympathetic activity on one side produces vasoconstriction, while the contralateral nostril exhibits a simultaneous parasympathetic dominance causing partial occlusion... Yogis called this...a marker of the balance of 'ida and pingala' and in Chinese medicine it is described as the balance of 'yin and yang.'... [R]eceptors in the nasal mucosa register the flow of air across the membranes (unilaterally) and transmit this signal ipsilaterally to the hypothalamus... the highest center for autonomic regulation." (Shannahoff-Khalsa, 2001/2002, pp. 80-81) When the mucosa are anesthetized these selective effects on EEG are eliminated.

UFNB can selectively stimulate the opposite hemisphere producing relatively greater EEG power. "[T]he electrographic activity generated by nasal (versus oral) breathing is produced by a neural mechanism in the superior nasal meatus. This activating effect could also be produced by air insufflation into the upper nasal cavity without inflating the lung. Local anesthesia of the mucosal membrane suppressed the cortical effects of airflow stimulation... [L]ateralized EEG activity can be affected by unilateral nasal airflow... [R]ight nasal dominance is coupled to relatively greater verbal performance or left brain activity, and left nasal dominance with spatial or right hemispheric skills.... [R]ight UFNB increased left hemispheric cognition and... left UFNB increased right hemispheric cognition as predicted by yogis... [N]asal airflow may stimulate sympathetic dominance on the homolateral (ipsilateral) [opposite] body-brain half... [D]irect stimulation of one half of the cortex may occur by sympathetic stimulation and thus result in vasoconstriction... [I]ncreased parasympathetic activation may occur simultaneously in the contralateral [opposite] hemisphere to compensate for the contralateral sympathetic activation, thus helping to maintain adequate but altered cerebral perfusion [blood flow]." (Shannahoff-Khalsa, 2001/2002, pp. 86-87) The research results show a mixed results regarding the influence on cognitive tasks and across sex. Maybe breathing patterns only increase spatial rather than verbal skills.

#### **17.7.5. CLINICAL APPLICATIONS OF UFNB (UNILATERAL FORCED NOSTRIL BREATHING)**

ANGINA PECTORIS: "[D]iaphragmatic breathing with attention to both phases of respiration and the intervening pauses' coupled with 'alternately closing one nostril while inhaling slowly through the other' had profound effects on patients with angina pectoris... [T]he alternate nostril breathing technique directly effects the lateralized sympathetic and vagal [parasympathetic] input to the heart, thereby inducing a balance in ANS [Autonomic Nervous System] activity. This may help to reset the electrical patterns affecting the heart muscle and also to help achieve more normal blood flow to the heart muscle." (Shannahoff-Khalsa, 2001/2002, p. 88)

OBSESSIVE COMPULSIVE DISORDER (OCD): "A left nostril specific UFNB breathing protocol from Kundalini Yoga meditation was compared with a group using a combination of the Relaxation Response for 30 minutes plus the Mindfulness Meditation technique for 30 minutes. The Kundalini

Yoga breathing group improved on all the scales of the Yale-Brown Obsessive Compulsive Scale. The two groups were merged using the Kundalini Yoga breathing method. There was, over the second year of treatment, a 71% scale measured improvement, highly clinically significant when compared to current drug therapy (20% to 35% decrease in symptom scores). About one third of patients are "drug treatment resistant.... In responders, medication produces 'only a 30%-60% symptom reduction and patients tend to remain chronically symptomatic to some degree despite the best of pharmacologic interventions..'" (Shannahoff-Khalsa, 2001/2002, pp. 90-91)

OCD people have right hemisphere abnormalities so left nostril specific UFNB breathing, which has a strong effect on the frontal and prefrontal right cortex (and maybe the right orbital frontal cortex which is the site of much emotional control in the limbic complex), may help to compensate for the OCD-related defect. (Shannahoff-Khalsa, 2001/2002, p.92) (See part 14.1)

#### **17.7.6. CLINICAL EFFECTS OF UNILATERAL CHRONIC NASAL OBSTRUCTION**

[xx]= translation into English, more or less

Patients with Unilateral Chronic Nasal Obstruction were predisposed to a variety of disorders and symptoms: "*Local disorders*: nasal respiratory insufficiency, hypertropic rhinitis [increased inflammation of lining] of the obstructed nostril and allergic disorders. *Neighboring disorders*: spontaneous painful sensitivity in the periphery, sinusitis [inflammation of the sinus], catarrh [catarrh - inflamed mucous membrane with discharge] of the Eustachian tube, hypacusia [hyperacusis - sounds perceived as unduly loud] and otorrhea [ear discharge], bronchorrhea [abnormally profuse watery secretion from the bronchi] all on the obstructed side. *Distant disorders*: intellectual asthenia [loss of energy and strength and feeling of weakness] with frequent amnesia, headaches, hyperthyroidism [excessive secretion by thyroid of thyroxine and/or triiodothyronine, increase oxygen consumption, accelerated basal metabolic rate, thyroid enlargement leading to weakness, weight loss and nervousness], cardiopulmonary [heart and lungs] asthenia [loss of energy and strength] with tachycardia [fast heart rate] and asthmatic disorder with sometimes hypertrophy [increased size] of the left cavity of the heart and pulmonary emphysema [lung dilation of the alveoli -small cells- and bronchioles - small branches of the pipe- with destruction of their walls], hepatic [liver] and gall bladder, gastritis [inflamed stomach lining], enterocolitis [inflammation of the mucosa of both large and small intestine], sexual disorders, dysmenorrhea [painful menstruation], and decrease of virility." (Shannahoff-Khalsa, 2001/2002, pp. 94-95, *italics added*)

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