

Contraindications To High Ventilation Breathwork

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Introduction

High Ventilation Breathwork encompasses a range of breathwork practices rooted in both contemporary breath communities and ancient traditions. These practices involve an increased rate and/or depth of breathing, utilized for meditative, explorative, or awareness-based purposes. Despite variations in intensity and technique, these methods typically produce breathing patterns that exceed resting metabolic demands, resulting in respiratory alkalosis. This alteration in breathing patterns and systemic biochemistry induces physical, mental, and emotional changes, accompanied by specific contraindications.

This document aims to inform breathwork facilitators and coaches about potential contraindications and associated health risks. It is not intended as medical advice but rather provides the scientific rationale for these contraindications. Individuals interested in high ventilation breathwork should undergo health screening for the contraindications listed below. Those with absolute contraindications should abstain unless they provide written physician consent and a medical waiver, which does not exempt facilitators from their duty of care. Relative contraindications require cautious participation, with protocols for additional observation or modified breathing guidelines to ensure safety.

Absolute Contraindications

1. Cardiovascular Disease (Including Angina, Previous Heart Attack, or Stroke)

Reason:

- **Reduced Oxygen Delivery to the Heart:** High ventilation breathwork induces hypocapnia (low blood carbon dioxide levels), which can cause vasoconstriction of coronary arteries, reducing oxygen

delivery to the heart. In individuals with cardiovascular disease, this may exacerbate ischemia in an already compromised heart.

- **Increased Cardiovascular Strain:** Rapid, deep breathing alters intrathoracic pressure, leading to fluctuations in blood pressure and increased cardiac workload. This can strain the cardiovascular system, heightening the risk of adverse events in those with heart conditions.
- **Risk of Arrhythmias:** Hypocapnia disrupts electrolyte balance (e.g., potassium and calcium), potentially triggering arrhythmias. Individuals with cardiovascular disease are particularly susceptible, as their cardiac tissue may already be prone to electrical instability.
- **Increased Oxygen Demand:** Breathwork elevates systemic oxygen demand, which may overwhelm the compromised cardiac function in individuals with cardiovascular disease, increasing the risk of angina or heart failure exacerbation.

2. High Blood Pressure (Uncontrolled) or Low Blood Pressure with Fainting History

Reason:

- **Blood Pressure Fluctuations:** Hypocapnia from high ventilation breathwork causes cerebral vasoconstriction, which may reduce cerebral blood flow and lower blood pressure. In individuals with uncontrolled hypertension, these fluctuations can increase the risk of vascular complications, such as stroke.
- **Risk of Fainting:** Reduced cerebral blood flow can lead to dizziness or syncope, particularly in those with a history of fainting. This increases the risk of injury from falls.
- **Increased Cardiovascular Strain:** The heightened respiratory effort and altered hemodynamics during breathwork increase cardiac workload, which may exacerbate uncontrolled hypertension or strain the cardiovascular system in hypotensive individuals.
- **Potential for Arrhythmias:** Electrolyte imbalances from hypocapnia may predispose individuals to arrhythmias, particularly in those with hypertension-related cardiac hypertrophy.
- **Impact on Medication Efficacy:** Hyperventilation may alter physiological responses to antihypertensive medications, potentially

reducing their effectiveness and complicating blood pressure control.

3. Diagnosed Aneurysm (Brain or Abdomen)

Reason:

- **Increased Risk of Rupture:** Hypocapnia-induced vasoconstriction alters vascular pressure dynamics, potentially increasing stress on aneurysm walls and raising the risk of rupture, particularly in cerebral aneurysms.
- **Impact on Blood Flow:** Changes in systemic and cerebral blood flow during breathwork may destabilize the hemodynamics around an aneurysm, increasing the risk of complications in both cerebral and abdominal aneurysms.
- **Risk of Aneurysm Dissection:** Increased cardiovascular strain and blood pressure fluctuations may contribute to aneurysm dissection, particularly in individuals with weakened vessel walls.
- **Potential for Increased Intracranial Pressure:** Although hypocapnia typically reduces intracranial pressure, rapid changes in pressure dynamics during breathwork may destabilize cerebral aneurysms, increasing rupture risk.

4. Uncontrolled Thyroid Conditions and Uncontrolled Diabetes

Reason:

- **Impact on Thyroid Function:** Hypocapnia and respiratory alkalosis may disrupt metabolic and hormonal balance, exacerbating uncontrolled thyroid conditions (e.g., hyperthyroidism), which are sensitive to changes in blood pH and gas levels.
- **Risk of Hypoglycemia in Diabetes:** Respiratory alkalosis can alter glucose metabolism and insulin sensitivity, increasing the risk of hypoglycemia in individuals with uncontrolled diabetes, particularly those on insulin or sulfonylureas.
- **Hormonal Interactions:** Changes in blood pH and gas levels may disrupt the delicate hormonal balance required for thyroid function and glucose regulation, potentially worsening these conditions.

- **Cardiovascular Strain:** Both conditions increase baseline cardiovascular risk. Breathwork-induced hemodynamic changes may further stress the cardiovascular system, elevating the risk of adverse events.
- **Medication Interactions:** Physiological changes from breathwork may interfere with the efficacy of thyroid or diabetes medications, complicating disease management.

5. Epilepsy and/or Seizures

Reason:

- **Potential Trigger for Seizures:** Hypocapnia and hyperoxia from breathwork can lower the seizure threshold by altering neuronal excitability, increasing the risk of seizures in individuals with epilepsy.
- **Disruption of Electrolyte Balance:** Hypocapnia may cause alkalosis, disrupting electrolyte levels (e.g., sodium and calcium), which can precipitate seizures in susceptible individuals.
- **Altered Cerebral Blood Flow:** Reduced cerebral blood flow from hypocapnia may affect brain perfusion, potentially triggering seizures in those with epilepsy.
- **Individual Variability:** The seizure threshold varies among individuals, and breathwork may unpredictably provoke seizures in those with a history of epilepsy.

6. Prior Diagnosis of Bipolar Disorder, Schizophrenia, or History of Psychosis

Reason:

- **Potential Impact on Mental State:** Hypocapnia may alter cerebral blood flow and oxygenation, potentially destabilizing mood or perception in individuals with bipolar disorder or schizophrenia, increasing the risk of mood swings or psychotic episodes.
- **Sensitivities to Stressors:** The intense physiological and emotional effects of breathwork may act as a stressor, disrupting emotional stability in individuals with these conditions.
- **Risk of Psychotic Episodes:** Breathwork-induced symptoms (e.g., dizziness, altered perception) may mimic or trigger psychotic

symptoms, particularly in those with schizophrenia or a history of psychosis, potentially overwhelming ego defenses.

- **Individual Variability:** Responses to breathwork vary, and individuals with psychiatric conditions may experience unpredictable adverse effects.

7. Recent Hospitalization for Psychiatric Condition or Emotional Crisis

Reason:

- **Potential Triggers:** Breathwork's intense physiological and psychological effects may trigger distressing emotions or memories in individuals recently hospitalized for psychiatric issues, destabilizing their recovery.
- **Sensitivity to Stressors:** Recent psychiatric hospitalization indicates heightened vulnerability to stressors, and breathwork's intensity may overwhelm emotional resilience.
- **Interaction with Medications:** Breathwork may alter physiological responses to psychiatric medications, potentially affecting their efficacy or causing adverse reactions.

8. Pregnancy

Reason:

- **Oxygen Supply to the Fetus:** Hypocapnia may reduce maternal blood flow to the placenta, potentially compromising fetal oxygen delivery, which is critical for development.
- **Hormonal Changes:** Pregnancy alters respiratory and hormonal responses, and breathwork may unpredictably affect these systems, potentially impacting maternal or fetal health.
- **Impact on Blood Pressure:** Breathwork-induced blood pressure fluctuations may exacerbate pregnancy-related hemodynamic changes, posing risks to both mother and fetus.
- **Risk of Dizziness or Fainting:** Hypocapnia increases the risk of dizziness or syncope, which is particularly concerning in pregnancy due to the risk of falls and reduced fetal blood flow.

- **Cardiovascular Stress:** Pregnancy increases cardiovascular demands, and breathwork may add undue stress, particularly in individuals with pregnancy complications (e.g., preeclampsia, preterm labor).

9. Detached Retina

Reason:

- **Intraocular Pressure Changes:** Hypocapnia may alter blood flow and intraocular pressure, potentially stressing a detached retina and increasing the risk of further detachment.
- **Risk of Increased Eye Strain:** Breathwork-induced symptoms (e.g., dizziness, visual changes) may exacerbate eye strain, worsening retinal damage.
- **Importance of Eye Protection:** Breathwork's potential for uncontrolled movements or dizziness increases the risk of accidental eye trauma, which is dangerous for a detached retina.

10. Glaucoma

Reason:

- **Impact on Intraocular Pressure:** Hypocapnia may influence blood flow and intraocular pressure, a key risk factor for optic nerve damage in glaucoma.
- **Potential Risk of Further Damage:** Sudden changes in intraocular pressure during breathwork may exacerbate optic nerve damage, worsening glaucoma progression.

11. Other Medical, Psychiatric, or Physical Conditions Impairing Intense Physical/Emotional Activities

Reason:

- **Potential Medication Interactions:** Recent changes in medications (e.g., hormone replacement therapy) may alter physiological responses, and breathwork's intensity could exacerbate these effects.

- **Impact on Emotional Well-Being:** Intense breathwork may overwhelm individuals with psychiatric conditions, destabilizing mental health.
- **Physical Health Considerations:** Pre-existing conditions may be exacerbated by breathwork's physical demands, increasing the risk of adverse events.

Relative Contraindications

1. Asthma

Reason:

- **Bronchoconstriction Risk:** Hypocapnia may trigger bronchoconstriction, exacerbating airway sensitivity in individuals with asthma and potentially causing an asthma attack.
- **Increased Respiratory Rate:** Rapid breathing may fatigue respiratory muscles, worsening breathing difficulties in asthmatics.
- **Potential Trigger for Asthma Attacks:** Changes in blood gas levels may act as a trigger for asthma exacerbations.
- **Risk of Hypocapnia:** Hypocapnia-induced alkalosis may worsen respiratory symptoms in asthma.
- **Protocol:** Individuals with asthma should bring their inhaler to sessions and be monitored closely for respiratory distress.

2. Recent Surgeries (Within 3–6 Months)

Reason:

- **Impaired Healing Process:** Breathwork's physical demands may disrupt surgical site healing, risking complications like wound reopening.
- **Risk of Complications:** Intense activity may increase the risk of bleeding, infection, or scar tissue formation.
- **Increased Strain on Surgical Areas:** Breathwork may stress surgically repaired respiratory or cardiovascular systems, delaying recovery.
- **Potential for Dislodging Internal Structures:** Vigorous breathing may dislodge surgical implants (e.g., stents), posing health risks.

- **Protocol:** Consult a physician before participating.

3. Acute Illness or Symptoms

Reason:

- **Increased Physiological Stress:** Breathwork may divert resources from immune responses, prolonging recovery from acute illness.
- **Risk of Exacerbating Symptoms:** Rapid breathing may worsen respiratory symptoms (e.g., cough, shortness of breath), causing distress.
- **Dehydration and Fluid Loss:** Breathwork may exacerbate dehydration from illness-related fluid loss, complicating recovery.
- **Potential for Contagion:** Group sessions risk spreading contagious illnesses.
- **Individual Discomfort:** Breathwork's intensity may worsen fatigue and malaise, hindering recovery.

References

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