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#### **Exercise With Oxygen Therapy**

#### **Oxygen Multistep Therapy**

#### **Overview**

Exercise with oxygen was pioneered by <u>Manfred Von Ardenne</u>. It is an inexpensive and simple therapy strategy which improves tissue oxygen delivery. The method is described fully in <u>Oxygen Multistep</u> <u>Therapy / Scanned Google Book / Thru page 124</u>.

Our research indicaties it may substantially superior to hyperbaric:

- Faster Results
- Lower Cost
- Low Risk

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These protocols were extracted and updated from Oxygen Multistep Therapy. Pharmaceutical recommendations were replaced with functionally similar herbs where possible.

Add your feedback and comments Oxygen Multistep Therapy Blog

Condition	Duration	Sessions Required	Oxygen Required	Notes
Low Blood Pressure / Hypotension	80 min	1-2	4 l/min	Uses niacin flush
High Blood Pressure / Hypertension	4 hours	2-20	4 l/min	Repetitive light stress to stimulate vascular repair over time.
Hyperthermia Maintenance Protocol	1 hour	ongoing	6-10 l/min	Maintains systemic microvascular performance
Immune Enhancement	1 hour	varies	6-10 l/min	Lifts lymphocyte count 17% within 1 hour. Continue until resolution
Hyperthermia Aided Localized Healing	1 hour	varies	6-10 l/min	Restores local circulation limited by tissue trauma.
Respiratory Distress	3 hours	4 typical	4 l/min	Respiratory Failure/Coma/COPD/etc.
15 Minute Quick Procedure Athletic Performance	15 min	1 - many	25 - 30 liters/min	Quickly restores and maintains systemic microvascular performance in able bodied individuals.
36 Hour	2 hours	18+ times	4-10 l/min	Repetitive restoration of vascular performance.
<u>Maintenance</u>	1 hour	ongoing	10 l/min	Interval rest / exercise to restore and maintain microvascular performance.

Injury Recovery	60 Min	varies		Use PEMF, heat and exercise to reverse local circulator limitatins to optimize healing.
<u>Autism</u>	15-60 min	ongoing	5+ I/min	Low intensity protocol designed for tolerance
<u>Oxysock</u>	30-60 min	varies	3+ I/min	Increases local oxygen saturation to tissues using DMSO as a delivery agent.

#### **More Information**

Email Us at: contact@dshedu.com or visit or contact page or call 970 372-4274

Oxygen Multistep Therapy, \$89.95 on (Amazon.com) is the seminal reference on oxygen therapy. It describes that oxygen challenge is a reversible condition, and provides simple and affordable methods to reverse these conditions. These methods are summarized in the protocol references above.

- 1. Blood leaves the heart in arteries and flows through a funnel network to tiny capillaries;
- 2. A hypoxic challenge from resulting from toxic or other assault, reduces oxygen availability and triggers swelling, or inflammation;
- 3. In the interior surface skin of the capillary, on the exit, venous, side, of the capillary branches.
- 4. This inflammation limiting circulation through the capillary network, which further limits blood flow, and causes more stress and inhibits all nutrient and oxygen related functions in the tissue served by the capillary branch;
- 5. The condition is reversible by maximizing the arterial to venous oxygen differential;
- 6. And reversal is durable or permanent (or until a future trauma).

Oxygen Multistep Therapy is a method to reverse this "switch" mechanism in a wide range of conditions. Reversal requires a short term increase in oxygen delivery by increasing plasma oxygen levels. This is achieved by increasing the oxygen content of breath air to about 40% during exercise, while supplementing metabolism with:

- exercise, heat or drugs than temporarily enhance vascular performance
- oxygen metabolism supporting nutrients.

#### **Scientific References**

- PubMed: Oxygen Multistep and Mental Capacity perception increased 12-18%
- PubMed: Age-dependence of oxygen Transport into Body Tissues
- PubMed: Capillary-wall switch microcirculation
- PubMed: Hyperthermia and O2 Multistep Process and shortened rehab
- PubMed: Adaptation of Cancer Strategy & Metastasis Prevention
- PubMed: Combating cancer metastasis immuno-stimulation by OMST
- PubMed: Multistep with hyperthermia on PubMed
- PubMed: Increased Leukopoietic Effect
- PubMed: Live Query of "Oxygen Multistep Therapy"
- PubMed Live Query of Manfred Von Ardenne for more related publications

#### Too Much Oxygen

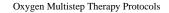
Breathing pure oxygen for long periods of time can harm the lungs or cause oxygen toxicity:

- · Over 4 hours of pure oxygen can harm the lungs;
- Continuous use of oxygen over 60% can lead to toxicity;
- High oxygen concentrations under hyperbaric condtions, more than 1 atmosphere.

Exercise with oxygen therapies use oxygen concentrations and durations well below well known harmful level:

- Use of pure oxygen never exceeds 15 minutes;
- Oxygen at 60% concentration is used for at most 6 hours;
- All therapy is at 1 atmosphere;
- Daily use of maximum level for 10 years produced only beneficial effects.

#### **About Oxygen Concentrators**



We recommend high end concentrators because of the failure rates of recycled units. About 80% of the used recycled units we used failed within 6 months. We abandoned them.

We only recommend use of <u>top-end industrial concentrator</u> due to poor durability and support cost of the recycled units. <u>Click Here for Product Listing</u>.

<u>Unreliable Used Oxygen Conterators</u> This is a summary of the market niche for recycled oxygen concentrators. It accurately matches our experience and policy. They do not last, and do not perform to specification, and so we do not recommend them.

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#### **HowTo Portal**

These guides provide usage advise independent integrated use of energetic devices and various supplements. Visit the <u>Recipe Page</u> for flavorful ways to take supplements.

We have added blogs to the more popular protocol modules. <u>Visit our Blog</u> Tutorial Page.

#### **PEMF Protocols**

PEMF	Various methods for PEMF devices
Anabolic Repair	Nutrient and Energetic program to support natural sleep and healing.
PEMF Pelvic Rotation	Pelvic rotation Plus PEMF method for sciatica, back & neck
PEMF Usage Guide	General exposure guide for PEMF devices
Placement Guide	Placements for using PEMF devices by condition

#### **Digestive Protocols**

Betaine HCL	Increase Stomach Acid for improved digestion
Chlorine Titration	Increase systemic chlorine to resolve upper GI Bloating and enable chlorine dependent systemic processes.
GI Cocktail - Gut Bugs	Treat digestive infection, food poisoning, stomach flu, etc.
Pancreatic Enzymes	Use of Pancreatic enzymes to aid digestion.
Vitamin C Bowel Flush	Use Vitamin C for temporary Constipation relief

#### **Metabolic Protocols**

PC Detox	Systemic lipid detoxification protocol for many toxic syndromes.
Hypotension	Integrated protocol to restore/maintain vascular performance.
Stress Detox	Use metabolic acids and catalysts to detox stress chemistry.
pH Pain Titration	Evaluate whether symptoms are acid/alkali influenced
Dysaerobic Titration	Compensate for acute degenerative stress.
Lymphatic Urea Detox	Removes elevated levels of Urea from lymph and blood.
Deep Cell Detox	Use EPL and Butyrate to deep cleanse cells.
Myer's Critical Care	Extreme oral antioxidant detox protocol.
Lipophilic Detox	Elimination of industrial fat soluble toxins

# Oxygen Multistep Protocols

Hypotension / Low BP	Niacin therapy to permanently resolve Low Blood pressure.
Immune Enhancement	Increases lymphocyte count 17% in 1 hour.
Respiratory Distress	Restores respiratory performance with respiratory failure. Respiratory Failure/Coma/COPD/etc.
Systemic Hyperthermia	Systemic hyperthermia with oxygen and heat.
Health Maintenance	Low effort low cost maintenance program.
15 min Quick Procedure	Intense 15 minute program to optimize metabolic oxygen performance.
High Blood Pressure / Hypertension	Repetitive light stress to stimulate vascular repair over time.
Hyperthermia Aided Localized Healing	Restores local circulation limited by tissue trauma.
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	001 0/00.

15 Minute Quick Procedure Athletic Performance	Quickly restores and maintains systemic micro vascular performance in able bodied individuals.
Low Cost Maintenance	Interval rest / exercise to restore and maintain micro vascular performance.
<u>Injury</u>	Use PEMF, heat and exercise to reverse local circulator limitations to optimize healing.

# **Addiction Resolution**

Substance Addiction	48 hour system to resolve addiction to heroin, cocaine, alcohol, nicotine, crack, etc.
Hangover	Rapid detox system to resolve hangover.
Nicotine	System model to resolve nicotine/cigarette addiction.
Alcohol	Resolve physical alcohol addiction.  Methylation Support
Opiate, Heroin, Oxycontin, etc	Resolve opiate derivative addiction.
Crack Cocaine	Under Development. Contact us for more information.
Methamphetimine	Under Development. Contact us for more information.

# **Pathogen Detoxification**

Hepatitis B & C	Tutorial. Immunological Protocol for All Hepatitis strains.
Liver Flow Detox	Aids in liver congestion due to bile thickening.
Liver Cell Detox	Support liver cellular performance.
Liver Pathogen Detox	Liver Infectious Detox
Viral Symptom Neutralization	Reduce cold/flu symptoms with acid
Foot Fungus	Oppose foot fungus.
Pancreatic Enzyme  Detox	Usage of pancreatic enzymes to digest systemic pathogens.

Glycogenic Mineral Replacement	System for replacement of heavy metals which interfere with glucose metabolism.>
Nitrate Urea Detox	Reduction of nitrate urea
Ammonium Urea Detox	Reduction of ammonium urea
Bloodroot	Reduction of blood thallus artifacts and cellular masses
Cellular Parasites	Strategy for lifecycle of cellular parasites

# **Taking Substances**

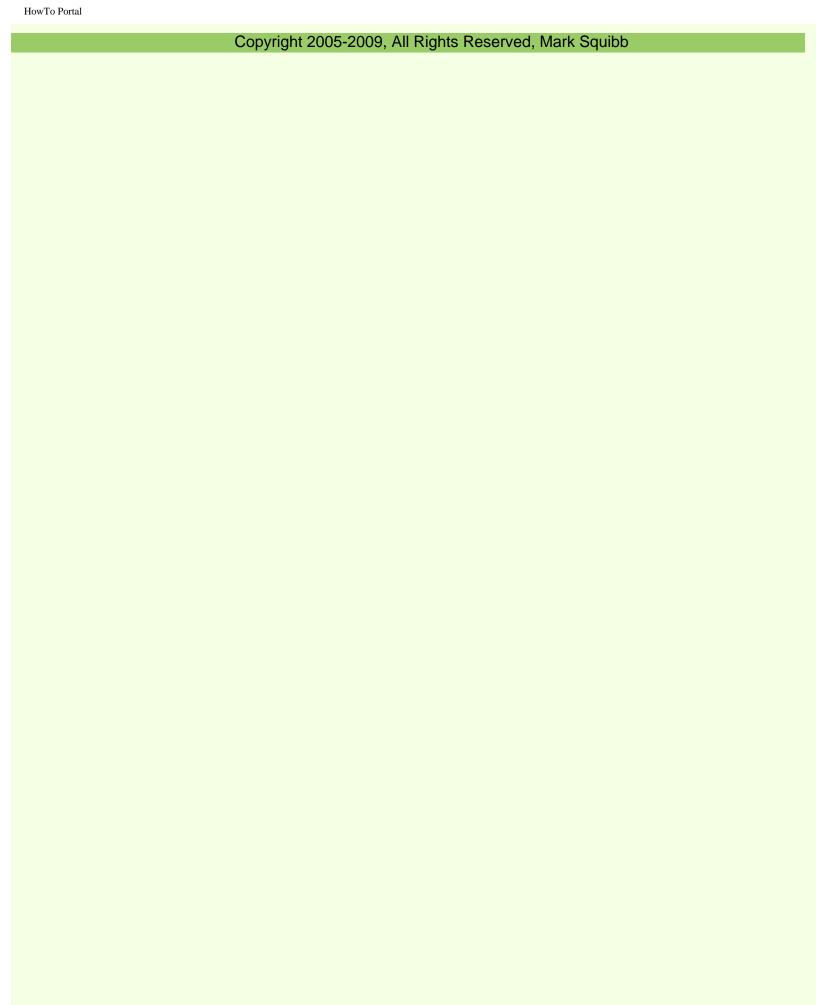
# **Acute/Severe Conditions**

Injury Recovery	Optimize healing for structural injury
Acute Malignancy	Emergency Salvage for acute malignancy
SCLC	Advanced protocol for SCLC
ALS	Integrated pathogenic, detoxification energetic protocol.

#### Miscellaneous

Hair Loss	Condition specific supplement strategy for hair loss.
Juvenile Eczema	Dietary Strategy for treating childhood eczema.
Uterine Fibroids	Integrated model for elimination of uterine fibroids.
Shingles Lesion	Resolve shingles lesions with ePad.
Flash Detox	Rapid method to detoxify from toxic substance exposure.
Spider Bite	Treatment of Brown Recluse spider bite with ePad
Thought Field Therapy	Treatment of emotional & physical issues with gentle Energy
Seizure Mediation Circuit	A predictive measurement method and passive circuit reported to reduce seizure frequency/severity.

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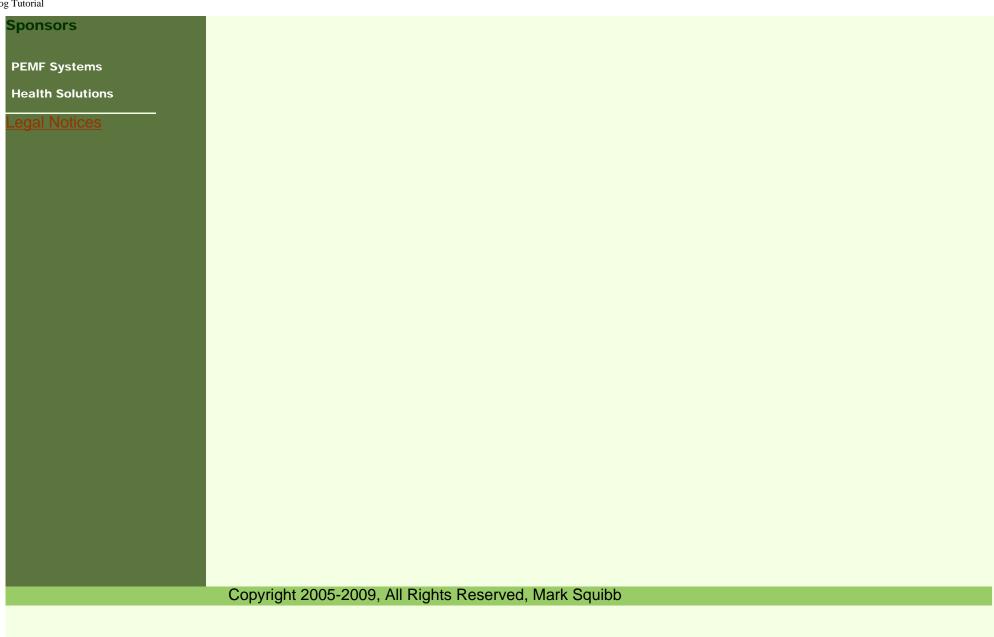
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#### OMST Hypotension Therapy

Hypotension is low Blood pressure. It occurs when the muscular walls of arterial system provide insufficient\_vascular resistance or vasoconstriction.

The protocol targets restoration of blood flow to the smooth muscles inside arteries, and to the control centers in the brain. The goal is to restore the process which maintains natural vascular tone, which resists blood flow.

The absence of the ability to resist blood flow causes low blood pressure, and variable <a href="https://hypoxia.">hypoxia</a> to distal parts of the body, including hands, feet, and skin. In some cases, capillary flow reduction due to inflammation, limits blood flow to other parts of the brain and sensory systems which result in tinnitis, hearing loss, and vertigo. These conditions often accompany accompany hypotension, often respond to therapy.

The references report that this often a single use of this program restores normal blood pressure in over 50% of cases.

This protocol should only be used by people with a sound heart. Do not use this procedure if you have heart disease. The procedure uses oxygen during a <u>niacin flush</u>, with other nutients which improve vascular performance.

If you are not familiar with a niacin flush, then you should take a dose of niacin before the procedure to become familiar with the sensation. It is not dangerous. Visit the OMST Main Page.

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#### **Hypotension Protocol**

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This protocol is extracted from Oxygen Multistep Therapy. The preferred time of day for the procedure is 10:00 a.m.

There is a tendency for the procedure to substantially improve the sense of well being because it rapidly restores circulation to organs, and brain. The body organs gradually adapt to a lack of oxygen during chronic hypotension.

Restored circulation, results in an immediate, and often dramatic improvement in the sense of well being. Be mindful that your body is adapting to this new blood supply and take it a bit easy. Use a blood pressure cuff to monitor blood pressure throughout procedure. Stop if blood pressure exceeds 120/80.

#### **Starting Supplement:**

- Take 500 mg <u>Niacin</u> (enough to produce <u>niacin flush</u>)
- 30 Mg Thiamine (Vitamin B1)
- 100 Mg Magnesium Orotate
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)
- . 200 mg Vitamin C
- . 1 gram sea salt

#### Oxygen Pprocedure, 20 minutes after Starting Supplement

- Continue 80 Minutes of oxygen or until flush is complete
- Sit comfortably or very mild exercise (Breath rate < 20 breaths/min)
- · Check pulse on 10 minute Interval
- Discontinue oxygen if pulse exceeds 110 beats/minute
- 4-10 liters per minute of oxygen through mask or canula

#### Finish Supplement

- 30 mg Thiamine
- . 100 mg Magnesium Orotate
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)
- 300 mg vitamin C

#### Finish Procedure

30 Minutes of rest

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#### OMST Hypertension, High Blood Pressure, Therapy

Hypotension is high Blood pressure. It results from combinations of several physiological effects:

- Electrolyte dysregulation / Transient
- Excess vascular tension / Transient
- Excessive erythrocyte agglutination / Semi Durable
- Arterial hardening / Durable

It occurs when arterial muscular walls, or when the blood is to thick to enter capillary circulation zones.

This protocol is designed to be used during intervals without high blood pressure. Most individuals will present with variable blood pressure. Manfred von Ardenne asserts that OSMT reverses the structural dysfunctions, atherosclerosis, etc. which lead to more severe conditions.

This procedure temporarily increases blood pressure. Therefore when using OSMT for high blood pressure, use a blood pressure cuff and stop therapy when your blood pressure reaches a cutoff level. Over time unregulated blood pressure will decrease resulting from enabled repair of circulatory regulation.

The program supplements use blood pressure regulator agents to modulate blood pressure to improve therapuetic response.

#### **Hypertension Protocol**

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This protocol is extracted from Oxygen Multistep Therapy.

Protocol Duration 2-4 Hours. Method Rest with interval exertion for 5-10 minutes. Indivdual breathes 4-6 oxygen per minute during rest. Whenever possible up to 25% of time exercise to 70-100 watts of exertion on exercise equipment.

If blood pressure exceeds 170 / 110 suspend procedure until blood pressure returns to normal elevated levels.

#### Immune Enhancement-1 / 1 hour before therapy:

- 1000 mg Thymus Extract
- 6 Capsules Immune Assist
- 3 Capsules Transfer Factors

#### **Blood Pressure Modulation:**

- · Cardio VH / 1 Capsule
- If blood pressure exceeds 170 / 110 take another capsule and suspend protocol.

#### **Starting Supplement:**

- 30 Mg <u>Thiamine (Vitamin B1)</u>
- 100 Mg Magnesium Orotate
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)
- 300 mg Vitamin C

#### **Exercise procedure**, 20 minutes after Starting Supplement

- 1. Continue for hours
- 2. Breathe 4 liters oxygen for 15 minutes
- 3. Take blood pressure
- 4. Exercise 10 minutes at 70-100 watts output
- 5. Goto 1
- 6. Repeat Starting Supplement every hour

#### Finish Supplement

- . 30 mg Thiamine
- 100 mg Magnesium Orotate
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

• 300 mg vitamin C

#### Finish Procedure

• 30 Minutes of rest

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#### OMST Hyperthermia Therapy

Application of heat lifts metabolism. Saunas or hotrooms are well known. A recent method of using a <u>Biomat</u> or whole body heating pad produce similar results by increasing metabolic stress in the presence of oxygen.

Oxygen Multistep Therapy when performed as below increases leukocyte count by 10-24%. This is highly significant in virtually all metabolic syndromes.

#### **Hyperthermia Protocol**

This protocol is extracted from Oxygen Multistep Therapy. The core temperature should reach 104 degrees F or 40 degrees C.

#### **Starting Supplement:**

- 30 Mg Thiamine (Vitamin B1)
- 100 Mg Magnesium Orotate
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)
- · Optional: 300 mg Vitamin C

#### **Thermal procedure**, 20 minutes after Starting Supplement

- Use Biomat or Sauna to bring core temperatore to 104 F / 40 C degrees
- 4-6 liters per minute of oxygen through mask

#### Finish Supplement

- . 30 mg Thiamine
- 100 mg Magnesium Orotate
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)
- 300 mg vitamin C



#### **Finish Procedure**

• 30 Minutes of rest

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#### Immune Enhancement Oxygen Therapy

Application of heat lifts immunological performance.

Oxygen Multistep Therapy documented an increase in oral body temperator to 40 degrees C, increases leukocyte count by 17% +- 7%. See page 224 of Oxygen Multistep Therapy, Sauna Procedure

Note that a temperature of 104F, or 40C, is very high and may be above the tolerance for many indivduals. Modest increases in body temperature are very helpful, and repeated application often result in increases in tolerance.

Availability of at-home hyperthermia devices, IR Saunas, and whole body heating pads, enables daily therapeutic use, and lowers stress of hyperthermic immune enhancement. Daily use enables incremental and repeated therapy for cumulative benefit.

#### **Immune Enhancement Protocol**

This protocol is extracted from Oxygen Multistep Therapy, except this protocol uses heat to tolerance instead of targeting a fixed core temperature of 104 degrees. This high temperature is very high, and should be a therapy goal over time.

#### **Starting Supplement 20-30 minutes before therapy:**

- 30 Mg Thiamine (Vitamin B1)
- . 100 Mg Magnesium Orotate
- . 300 mg Vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)
- 1000 mg Thymus Extract

#### Hyperthermia procedure, 20 minutes after Starting Supplement-2

- Use Hyperthermia Device until oral temperature reaches tolerance or 104 Degrees F
- 4-10 liters per minute of oxygen through mask

Or use Quick Exercise Procedure (Preferable)

Or use 36h Procedure

#### Finish Supplement after hyperthermia

- . 30 mg Thiamine
- 100 mg Magnesium Orotate
- . 300 mg vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

• 1000 mg Thymus Extract

#### **Finish Procedure**

• 30 Minutes of rest



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#### **Local Hyperthermia Oxygen Circulation Therapy**

This procedure is designed to improve local circulation. It is useful in any condition where healing improvement is necessary including:

- Injury Recovery
- Venous Ulcers
- Gangrene
- Non-healing wounds
- Infection Recovery

The protocol optimizes systemic oxygen level, and then uses local heat, hotpads, etc. to open circulation to local area.

#### **Local Hyperthermia Protocol**

This protocol is extracted from Oxygen Multistep Therapy. The core temperature should

#### **Starting Supplement:**

- 30 Mg Thiamine (Vitamin B1)
- 100 Mg Magnesium Orotate
- 300 mg Vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

Stress procedure, 20 minutes after Starting Supplement

- Either use whole body hyperthermia to body temp 101-104 degrees F
- or Exercise to Maintain Pulse to 100 beats/minute
- And breathe 6-10 liters/min of oxygen through mask
- Apply PEMF to Treatment area if available
- Apply heat to injury area to bring temperature to 106 to 112. (Area should be warm, but not hot enough

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to cause burning or heat related discomfort.enhance vasodilation & microcirculation.)

#### **Finish Supplement**

- . 30 mg Thiamine
- 100 mg Magnesium Orotate
- 300 mg vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

#### **Finish Procedure**

• 30 Minutes of rest

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Crack Cocaine	Under Development. Contact us for more information.
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Liver Pathogen Detox	Liver Infectious Detox
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Ammonium Urea Detox	Reduction of ammonium ureas
Sanguinarine	Reduction of blood thallus artifacts and cellular masses
Cellular Parasites	Strategy for lifecycle of cellualar parasites

# **Taking Substances**

EPL Products	Consumption and titration for phospholipids & Myers Cocktails
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# **Acute/Severe Conditions**

Acute Malignancy	Emergency Salvage for acute malignancy
SCLC	Advanced protocol for SCLC
ALS	Integrated pathogenic, detoxification energetic protocol.

#### Miscellaneous

Hair Loss	Condition specific supplement stragety for hair loss.
Juvenile Excema	Dietary Strategy for treating childhood excema.
Uterine Fibroids	Integrated model for elimination of uterine fibroids.
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#### **OMST Quick Procedure**

Application of heat lifts metabolism. The protocol combines exercise with a high level of oxygen, 25-30 liters/min, to lift the system level to optimize metabolic performance. This protocol is recommended for indivdiuals in good health and a strong heart to avoid health relating to vascular degeneration.

The protocol is limited to individuals with a sound heart capable of exercise

#### **Quick Procedure**

This protocol is extracted from Oxygen Multistep Therapy. The core temperature should

#### **Starting Supplement:**

- 30 Mg Thiamine (Vitamin B1)
- 100 Mg Magnesium Orotate
- . 300 mg Vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

#### **Exercise procedure**, 20 minutes after Starting Supplement

- 15 Minutes of Exercise to tolerance
- 15-30 liters per minute of oxygen through mask according to strain 20-150 Watts

#### Finish Supplement

- . 30 mg Thiamine
- 100 mg Magnesium Orotate
- 3500 mg vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

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#### **Finish Procedure**

• 30 Minutes of rest

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#### OMST 36 Hour Program GK 4-II

This is the 36 hour cure Version of the OMST. It uses a vitamins to boost the metabolism.

This protocol uses daily 2 hour sessions breathing 4 l/min for 18 days. Periodic short exercise, 70-100 watts for 2-10 minutes is included when possible, with with rest periods to comfort.

This protocol is recommended to restore arterial saturation.

#### Oxygen Multistep Therapy / 36 hour Cure

This protocol is extracted from Oxygen Multistep Therapy. The core temperature should

#### **Starting Supplement:**

- 30 Mg Thiamine (Vitamin B1)
- . 100 Mg Magnesium Orotate
- 300 mg Vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

#### Oxygen procedure, 20 minutes after Starting Supplement

- 120 Minutes at 4-10 liters/oxygen minute
- Exercise in short periods 1-3 minutes every 15 minutes during 2 hours
- At end of 2 hours exercise 10 Minutes exercise 50+ watts of output to bring pulse > 90 beats/minute
- Complete entire procedure 18+ times

#### Finish Supplement

- . 30 mg Thiamine
- 100 mg Magnesium Orotate

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- 3500 mg vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

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#### **OMST Maintenance**

This is the maintenance Version of the OMST. It uses a vitamins to boost the metabolism.

This protocol uses daily 2 hour sessions breathing 4 l/min for 18 days. Periodic short exercise, 70-100 watts for 2-10 minutes is included when possible, with with rest periods to comfort.

This protocol is recommended to restore arterial saturation.

#### Oxygen Multistep Therapy

This protocol is extracted from Oxygen Multistep Therapy. The core temperature should

#### **Starting Supplement:**

- 30 Mg Thiamine (Vitamin B1)
- 100 Mg Magnesium Orotate
- . 300 mg Vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

#### **Burst Oxygen Procedure**

- 1. Breathe 5 liters/min for 5 minutes at rest
- 2. Exercise at moderate to high level for 5 minutes with oxygen
- 3. Go To 1
- 4. For 30 min to 2 hours at preference/tolerance

#### Finish Supplement

- . 30 mg Thiamine
- 100 mg Magnesium Orotate

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- . 3500 mg vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

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#### **OMST Autism Support**

Most if not all individuals presenting with Autism show significant oxygen metabolic dysfunction. Typically these indviduals present:

- · Multiple indications of liver dysfunction/damage
- High levels of Red Blood Cell dysfunction/damage
- Chronic Immunological / Inflammatory challenge
- · Cognitive/behavorial dysfunction likely related to brain hypoxia
- · Significant acid/alkali dysregulation
- · Chronic Hypotension / Low Blood Pressure

It seems likely that a significant fraction of the durable symptoms of autism result from the capillary switch mechanism documented by Manfred von Ardenne.

Here is a pathology model based on the capillary edema model:

- 1. In an pre-autistic child;
- 2. Chemical stress triggers a traumatic decrease in blood oxygen desaturation;
- 3. Desaturation results in hypoxia in capillaries throughout the body;
- 4. Which triggers capillary endothelial swelling;
- 5. In many systems throughtout the body, brain, bone marrow, pancreas, liver, etc.;
- 6. Swelling creates durable (permanent) flow restriction through affected capillaries;
- 7. Which permanently inhibits nutrient and oxygen delivery to tissue beds served by the capillaries;
- 8. Which inhibits repair of core healing systems;
- 9. Which prevents systemic healing;
- 10. Which when severe enough reaches a point-of-no-natural-return;
- 11. Which makes the condition permanent.

Note that we have observed variance in agglutination tendencies in autistic children which suggests that simple agglutination does not explain the why healing is permanently prevented in many autistic cases.

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This model proposes that the <u>zeta shock</u>, triggers agglutination, which in turn switches on capillary edema, which is the long term reason why healing fails. The capillary edema mechanism is exhaustively discussed in <u>Oxygen Multistep Therapy</u>, by <u>Manfred von Ardenne (text at this link)</u>.

The goal of this protocol section is to suggest an OMST therapy model which targets these issues. For background research, please see the appropriate references:

- <u>Liver</u> (See patents on liver hyperthermia & Oxygen)
- Brain (See references on Local Hyperthermia)
- Immune Support
- Hypotension

#### **OMST** vs Hyperbaric

Unlike long duration hyperbaric therapy which can use many dives, this protocol, when optimally used, produces results in one or two applications (for high level), and in 36 hours of cumulative therapy, (for low level). Moreover the equipment for OMST costs less about 15% of hyperbaric systems. The combination of high performance and low cost make it a very appealing therapy choice.

	OMST Exercise	OMST Thermal	Hyperbaric
Activates Capillary Switch	yes	yes	no - unknown
Tissue Oxygen Factor	20x	20x	2-4x
Long Term Oxidative Stress	no	no	yes
Autistic Therapy Duration	1 hour	20 hours estimated	200 hours
Approx System Cost	\$7000	\$3500	\$20000

Immune Activation	yes	yes	not documented
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OMST generally increases tissue oxygen availability by about 20x, while HBOT, is in the range of 2-3x. For capillary switch triggering, this observation explains the apparent performance difference between OMST and HBOT.

OMST creates much lower oxidative stress than HBOT, normally about 2%. Many autistics show extremely elevated oxidative stress profiles, and long term oxidative pressure can cause adverse responses.

#### **Autism Protocol**

The traditional OMST protocols required raising body temperature to 104 degrees, or agressive exercise while breathing very high levels of oxygen.

Heat vs Exercise. Autistic kids present treatment challenges. The trick is to find a therapy which is at least tolerable and preferably fun. This challenge demands creativity from parents. Generally there are two strategies to achieve the metabolic activation required to trigger capillary switching, using heat or exercise.

Heat is a challenge because body temperatures above about 100 degrees F, are quite uncomfortable.

The discomfort at this heat level is beyond the tolerance for most individuals with autism. This author suggests that "repeated low stress" treatments at home in a comfortable environment are much more achievable for the parent and child.

We are developing an "oxygen play room" concept. The challenges:

- Create an affordable system;
- With an enclosed area small enough to enable an affordable oxygen concentration system to create a therapeutic oxygen concentration;
- But big enough to be tolerable for the child/parent for exercise activity;
- To get pulse > 110 beats per minute;
- For at least 15 minutes;
- To trigger the "capillary switching threshold".

The goals of this protocol are:

- Maintain Protocol duration to kid-tolerable time between 15 and 45 minutes;
- · Use tolerable repetition instead of agressive shock to incrementally achieve therapy goals;
- Maintian parent/child tolerance and comfort

- Provide alternative oxygen adminstration alternative to mask (canula & tent)
- · Administer supplements in non-pill form when possible.

## **Recommended Equipment**

This equipment is recommended for monitoring and adminstering OMST to autistic kids.

- Oxygen Delivery Device (<u>Tent</u>, <u>child oxygen mask</u> or canula)
- Whole body heat source (Biomat, IR Sauna, or Hot Bath)
- Oxygen Concentrator (5+ liter/minute for mask or canula, 10+ l/min for tent)
- Wrist Blood Pressure Cuff (montor pre/post Blood pressure and therapy effects)
- <u>Infrared Forehead Thermometer</u> (measure core temperature effects during therapy)
- Pulse oxymeter (to measure oxygen saturation & desaturation performance)

Note if your child likes an active exercise activity which fits in a tent, consider the "exercise" a replacement for "hyperthermia". The goal is to increase pulse to 110 beats/minute while breathing near 100% oxygen, while using the supplements. Hyperthermia and exercise are methods to increase metabolic activity.

#### **Supplements**

Each supplement activates an aspect of the therapy. The basic supplement group provides basic vasodilator and blood oxygen absorption agents. The supplemental agents are vasodilators which provide immediate elevation in <a href="mailto:nitric oxide">nitric oxide</a> which is serves as a vascular neurotransmitter which opens the vascular system is the active agent in vasodilators.

#### **Low Blood Pressure Modulation (as indicated)**

• Niacin 100 mg (Increase blood flow with modest flush). Documented to reverse low blood pressure.

#### Immune Activation (as indicated)

• 500 mg Thymus Extract

#### **Basic Oxygen Supplement:**

- 100 mg Thiamine (Vitamin B1)
- 200 mg Magnesium Orotate
- 3000 mg L-Arginine alphaketoglutrate
- 200 mg Vitamin C

#### Pharmaceutical Vasodilators (if available)

- Amyl Nitrite (See notes)
- Glyceryl trinitrate (Nitro Glycerine)

#### **Exercise Protocol**

- 1. Take Basic Oxygen Supplement
- 2. Wait 20-30 minutes
- 3. Breathe oxygen and
- 4. Continue hyperthermia or exercise activity to tolerance or 1 hour
- 5. Take **Basic Oxygen Supplement**
- 6. Rest as needed

#### Notes:

• <u>Amyl Nitrite is a potent vasodilator</u>, <u>pharmacology</u>. It is available in non-pharmacological form as a room aroma.

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#### Oxysock Therapy

This procedure is designed to improve local tissue oxygen levels. It is useful in any condition where poorly vascularized tissue, tendons, ligaments, etc. must heal.

- · Connective Tissue Recovery
- · Vascular Damage
- Varicose Veins
- Gangrene
- Non-healing wounds

The protocol optimizes systemic oxygen level, and then uses DMSO as open circulation to local area.

If systemic vascular damage is present, evidenced by unhealthy toenails, <u>systemic vascular repair with</u> systemic protocol is strongly recommended.

Unhealthy toenails indicate that the body is unable to deliver sufficient nutrients and immunological resources to tissues farthest from the heart to maintain health under normal circumstances.

It indicates degenerate systemic vascular flow. The probability that the body will be able to deliver nutrients to damaged tissue is similarly reduced.

A healthy Toenail.

Healthy Toenail

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#### **Protocol**

This protocol is extrapolated from Oxygen Multistep Therapy.

#### **Starting Supplement:**

- 30 Mg Thiamine (Vitamin B1)
- 100 Mg Magnesium Orotate
- 300 mg Vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)
- Dimethyl sulfoxide topical on injury area

#### Therapy Procedure, 20 minutes after Starting Supplement

- Spray DMSO on skin of injury area
- · Enclose injury area
- · Apply concentrated oxygen to enclosure
- Keep area enclosed until DMSO is fully absorbed (30-60 minutes)
- Heat increases vascular dilation and plasma oxygen desaturation.

#### **Finish Supplement**

- . 30 mg Thiamine
- 100 mg Magnesium Orotate
- 300 mg vitamin C
- 3000 mg Arginine Alphaketoglutarate (Or prescription vasodilator)

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#### OGSI introduces the OG-20 Oxygen Generating System

Evolved from the extremely popular OG-15 model, the OG-20 extracts oxygen from the atmosphere, concentrates it up to 95% purity, and delivers the oxygen to any application. The OG-20 offers up to 40% more oxygen flow rate and delivery pressure.

#### Dependable

The OG-20 is completely self-contained, and its overall design is built for 24 hour operation. It produces up to 22 SCFH/10 Liters Per Minute at 1-15 PSIG, with oxygen purities up to 95%. The total industrial strength and quality of the OG-20 will provide the end-user with years of dependable, reliable, and maintenance-free operation.

#### Durable

The OG-20 is built on a powder coated steel frame/chassis. Its internal air compressor, aluminum sieve beds with state of the art molecular sieve material, filtration and flow control systems, are designed for years of continuous and reliable service. Each OG-20 goes through rigorous quality control testing procedures. Weighing only 74 lbs. (33.6 kg), the OG-20 is available in 120 VAC/60 HZ, 220 VAC/50 HZ and 220 VAC/60 HZ models for use Worldwide!

#### Safe

The OG-20 is being used more and more as an alternative to using high pressure, dangerous, and costly cylinder/liquid oxygen. Bottom-line... saving the end-user significant dollars on their oxygen costs. The OG-20's built-in adjustable regulator allows you to set the oxygen delivery pressure according to your requirements. The 1/3 Horsepower oilless piston air compressor maintains an internal pressure of less than 32 PSIG, and delivers an optimal flow of oxygen at up to 15 PSIG.

#### **Economical**

Oxygen is free! Eliminate the unnecessary costs of transportation, storage, and oxygen cylinder/liquid rental. The OG-20 uses less than 1/2 kilowatt of electricity to deliver up to 22 cubic feet of oxygen per hour.

#### Simple to Use and Maintain

With a lighted on/off switch, integrated control panel, digital hours meter, custom flow gauges and controls, the OG-20 is truly user friendly. Just plug it in, place the on/off switch to the "on" position, and set your oxygen delivery flow and pressure. The molecular sieve/zeolite (which separates the oxygen from nitrogen) is regenerative, and should not need to be replaced for the life of the unit (under normal operating conditions).



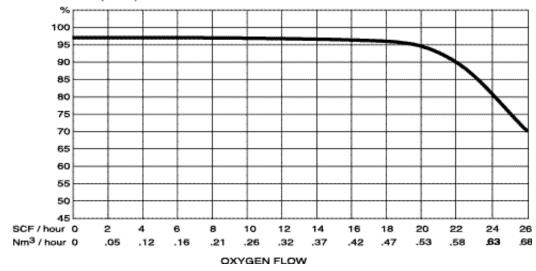
#### **Model OG-20 Specifications**

Oxygen Output	22 SCFH (10 LPM) @ 1-15 PSIG 0.62 Nm <sup>3</sup> / hr @ 103 kPa (1 BAR)	
Dewpoint	-60°F (-51° C)	
Oxygen Purity	93% +/- 3% (depending on flow rate)	
Sound Levels	62 dba @ 1 meter, open field conditions (without enclosure) 55 dba @ 1 meter, open field conditions (with reduce noise option)	
Dimensions (W x D x H)	17 x 10 x 27.5 inch 43 x 25 x 70 cm	
Weight	74 lb. (33.6 kg)	
Power Requirements	120 VAC Model: 120 VAC, 60 HZ, Single Phase, 6.0 ampere 220 VAC Model: 220-240 VAC, 50/60 HZ, Single Phase, 3 ampere	

NOTE:All specifications listed above are for the following conditions: 70°F, 30% Relative Humidity, Sea Level Elevation. The OG-20 must be operated in an upright position with no obstruction blocking the airflow around the unit. Response time after initial start-up or extended shutdown, approximately 2 minutes to attain maximum purity levels.

#### Model OG-20 Performance Curve

#### OXYGEN PURITY (+/-3%)



NOTE: SCF (standard cubic foot) gas measured at 1 atmosphere and 70°F and 0% humidity. Nm3 (normal cubic meters) gas measured at 1 atmosphere, 0°C and 0% relative humidity.

#### **OG-20 Modifications/Options**

Part# Description

7030004.002 220-240 VAC/50 HZ Model (Compressor Assembly)

 2160001.C02
 Reduce Noise Option

 2160001.C01
 Extra Air Inlet Filter

 1460001.003
 Set of Rubber Feet (4)

 2530005.001
 Set of Casters (4)

A31B Pressure Switch and Relief Valve (3 PSI deviation)

2160001.C04 Bacteria Filter (Installed)

NOTE: Compressorless and OEM versions also available for high-pressure applications.





# Dietary Supplement Education

**Protocol Portal** 

June 24, 2010

#### **Recycled Concentrators**

# **About Oxygen Concentrators**

We recommend high end concentrators for several reasons:

- Our experience indicates about 50% of the used recycled units fail within 6 months (see below);
- Recycled units do not perform to specifications and do not seem to deliver the rated oxygen output;
- Therapeutic performance is observably inferior to industrial service units;
- Industrial quality units routinely produce up to 50% over the rated output;
- Industrial units reliably produce expected therapeutic responses.

The minimum specifications for oxygen delivery start at 6 liters per minute. Recycled units nominally produce 5. Industrial units normally produce 12+ liters per minute.

We only recommend use of <u>top-end industrial concentrator</u> due to poor durability and support cost of the recycled units. <u>Click Here for Product Listing</u>.

# **Used Oxygen Concentrators**

This is a summary of the market niche for recycled oxygen concentrators. Generally, it matches our experience and policy. They do not last, and do not perform to specification, and so we do not recommend them.

#### Dear Jim:

I could write a book regarding this topic/issue. As a result, I will summarize as follows:

This Invacare unit is a 'medical oxygen concentrator' for distribution and use 'ONLY' within the home health care market.

It is regulated by the FDA and can only 'legally' be sold and distributed via licensed physicians (RX required), and through home health care dealers.

·It is used by patients in the home for COPD (chronic bronchitis, emphysema, etc.). These units are limited regarding overall oxygen flow rates and more importantly output pressures. They are built 'extremely' cheap and usually last only about three (3) years maximum.

At that time, most home health care dealers (larger companies), depreciate them completely and then purchase new ones. That is because around the three (3) year time frame, maintenance is required throughout the machine that usually supersedes the cost of purchasing a brand new unit.

They are built with a tremendous amount of plastic that after a period of time, will usually crack and split (internal tubing, etc.).

Lastly, they are manufactured to be used normally up to 2 - 3 Liters per Minute and low output pressures along with operating in a very clean/sterile environment. Most manufacturers of medical oxygen concentrators can manufacture these units for less than \$350 USD!

After the units are basically 'no longer needed' by the home health care dealers, they are usually sold to repair/refurbishing companies.

At that time, I call it the 'BLACK MARKET'... they are resold to just about whomever wants them. • To get around the FDA regulations, etc., they remove all warning and physician labeling, and then market them as 'non-medical units'.

More importantly, although minor refurbishing may be performed (if you are dealing with a reputable company), they still can be very limited regarding overall performance.

The FDA is well aware what is going on. Their comment to me a couple of years ago was 'as long as no one gets hurt or dies from using these units', they really do not care who uses them.

In summary, although overall technology is similar to our 'industrial' oxygen generating systems, they are really 'night and day' when it comes to overall manufacturing and longevity!

I could continue on... but that gives you a brief analysis. As always, please do not hesitate to contact me directly should you have any further questions. Take care.