

The Pressure Point

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2004

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USA Watch

LEGISLATION SOUTH DAKOTA— INSURANCE COVERAGE BILL #1093

State of South Dakota

SEVENTY-NINTH SESSION
LEGISLATIVE ASSEMBLY, 2004
291J0170 HOUSE BILL NO. 1093

Introduced by:
Representative Lange and Senator Kooistra

FOR AN ACT ENTITLED, An Act to provide certain insurance and Medicaid coverage for hyperbaric oxygen therapy and related services.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF SOUTH DAKOTA:

Section 1. That chapter 28-6 be amended by adding thereto a NEW SECTION to read as follows:

The department shall authorize coverage under the medical assistance program for hyperbaric oxygen therapy, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous system, including cerebral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any other autoimmune or other disease affecting the central nervous system.

Section 2. That chapter 58-17 be amended by adding thereto a NEW SECTION to read as follows:

Each individual health insurance policy delivered or issued for delivery in this state shall provide coverage for hyperbaric oxygen therapy, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous system, including cere-

bral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any other autoimmune or other disease affecting the central nervous system.

Section 3. That chapter 58-18 be amended by adding thereto a NEW SECTION to read as follows:

Each group or blanket health insurance policy delivered or issued for delivery in this state shall provide coverage for hyperbaric oxygen therapy, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous system, including cerebral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any other autoimmune or other disease affecting the central nervous system.

Section 4. That chapter 58-18B be amended by adding thereto a NEW SECTION to read as follows:

Each small employer health benefit plan delivered or issued for delivery in this state shall provide coverage for hyperbaric oxygen therapy, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous system, including cerebral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any other autoimmune or other disease affecting the central nervous system.

Section 5. That chapter 58-38 be amended by adding thereto a NEW SECTION to read as follows:

Each service or indemnity-type contract issued by a nonprofit medical and surgical service plan corporation that is delivered or issued for delivery in this state shall provide coverage for hyperbaric oxygen therapy, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous system, including cerebral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any

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Research Archives: An Interesting Look Back for the Future

Readers—patients and doctors alike often run into stumbling blocks when seeking reimbursement for Hyperbaric Oxygen Therapy. Reasons given for denials of claims by Government Agencies, Public Welfare Programs and Insurance Companies usually include an ‘insufficient data’ clause that leaves the burden of proof on the patient and prescribing doctor.

In an effort to shed light on the vast amounts of documented cases currently and previously recorded in Medical Journals and Publications, The Pressure Point will continue to find and publish these papers for use and referral by members and readers.

Fetal Brain Damage Associated with Cardiomyopathy of Pregnancy with Notes on Caesarian Section in a Hyperbaric Chamber.

Ledingham I McA, McBride TI, Jennett WB, Hume Adams J. Tindal SAP.
Br Med J 1968; ii: 285-287

Case Report

On 26 December 1966, a 22 year-old primipara [first birth] in the 37th week was admitted to a maternity hospital for observation because of a minor antepartum haemorrhage.

While in bed at 6:50 p.m. on 16th January 1967, she complained of pins and needles in her left limb, abruptly developed hemiplegia and became unconscious and cyanosed with stertorous respiration.

Because of the marginal nature of improvement which had taken place in the patient's condition with 100% oxygen at normal

in minutes, and her general condition deteriorated, **until death was thought to be imminent.**

Following compression to 2 atmospheres absolute, breathing oxygen, there was a marked improvement in the patient's condition: the blood pressure rose to 100/70 mmHg and the periphery became warm and pink. The fetal heart rate, which had been 220 and irregular immediately before compression, fell to 165 and became regular.

Caesarian section was now performed (Professor I Donald, University Department of Obstetrics and Gynaecology), and pro-

ceeded remarkably smoothly, though it was noted that the uterus remained slightly cyanosed in spite of the high maternal arterial oxygen tension.

A normal live female child was born with an Apgar score of 9.

By Jill Neimark

The Flight and Symptoms

It was a beautiful warm evening in Tucson in early January, and my plane had just landed. I was on assignment and had just left a freezing New York City behind.

I drove my rental car to the hotel, but I was

Hyperbaric Oxygen in the Treatment of the Postoperative Low-Cardiac Output Syndrome

Jacoub MH, Zeitlin GL
Lancet 1965; i: 581-583

Case Report

A 50-yr old man was admitted to the London Chest Hospital on Oct 23, 1964. He had a history of productive cough, recurrent haemoptysis, and dyspnoea on exertion for 21 years.

He had been discharged from the Army 20 years before with mitral valve disease.

The operation was performed by Mr. J. R. Belcher on November 3, 1964. After the operation the patient displayed all the signs of a low cardiac output—failure to recover consciousness with no localizing cerebral

signs, severe peripheral cyanosis and a very slow capillary refill in the limbs.

In an attempt to lower the pulmonary vascular resistance and raise the cardiac output, he was artificially ventilated with 100% oxygen. This was ineffective, and **the patient's death seemed certain.**

Since the patient's condition was now desperate, it was decided to use hyperbaric oxygen therapy. He was placed in the Vickers mobile chamber at a pressure of 2 atmospheres absolute.

Since there were no facilities in the chamber for artificial respiration, transfusion or drainage, these had to be discontinued.

The patient's condition began to improve after an hour inside the chamber. He was taken out of it every 2 hours to aspirate from his bronchial tree the considerable amount of heavily bloodstained sputum.

After 12 hours treatment, he began to move and gradually recovered consciousness for the first time since the operation.

The Hidden Link

How air travel can worsen chronic illness... and why HBOT is key

By Jill Neimark

The Flight and Symptoms

It was a beautiful warm evening in Tucson in early January, and my plane had just landed. I was on assignment and had just left a freezing New York City behind.

I drove my rental car to the hotel, but I was worried. On the second leg of the stopover flight, I had begun to suffer the stirrings of a headache that I knew was going to slowly crescendo over the night into terrible pain.

Having struggled with lyme disease for four years, I recognized the hallmark symptoms—migraine-like headaches—that usually put me into bed for a day or two. I call them “lymegraines.”

I used to be clobbered by them once or twice a week, but I hadn’t had one since late August—not since I’d been using a home hyperbaric chamber a few times a week. Hyperbarics had banished the crushing head pain to a mere memory.

But, for some reason the flight had triggered one. I lay in pain all night and barely made it up by ten a.m. that morning. I knew I needed a chamber session, or I wouldn’t be able to complete my assignment. I needed professional help.

HBOT Intervention

I called a friend, Lance Brubaker, Director of Bio-Medical Engineering at The Hyperbaric Therapy Center, in Cumming, GA. Lance located two professionals, one an M.D. and the other a naturopath, with chambers in Tucson. A few hours later I was blissfully breathing oxygen under pressure and my headache began to melt away.

The doctor whose chamber I visited, Jane Orient, M.D., had bought it to treat her own multiple sclerosis, and confirmed that it seemed to be slowing or halting progression of the condition. I stayed in the chamber about 40 minutes, and by the time I was out, my headache had diminished. A few hours later, it was gone.

I completed my assignment and flew home safely.

Lyme and Flight

But the question lingered in my mind:

why had the flight triggered a lymegraine?

Lance suggested three reasons:

- 1) When airplanes are up at flying altitude, the pressure inside the cabin is about 8,000 feet. For someone who lives at sea level, that’s a high altitude and compromises available oxygen;
- 2) The air is re-circulated, and as all the passengers breathe out carbon dioxide. Over time the oxygen level in the ambient air goes down;
- 3) Stopover flights cause dormant bacteria to replicate. Going up and down twice in one day is harder on the body than a straight flight.

In other words, hypoxia, high altitude, and changing pressure several times had overwhelmed my defenses. And just 40 minutes in the chamber reversed that.

“A drop in pressure will suppress immune function and signal pathogens to proliferate or grow rapidly.”

Lance explained that the same thing frequently occurred during his bout with lyme in the early 90’s, when he flew for business. “Flights greatly exacerbated my lyme symptoms, especially connecting or stop over flights. I would get off the plane and my body was trembling and sweating. I became hyperactive, disoriented, extremely anxious and would be unable to sleep for days afterward.”

Lance discovered that both pathogens and the immune function were susceptible to changes to lower oxygen and lower pressure. “A drop in pressure and oxygen will suppress immune function and signal pathogens to proliferate, or grow rapidly. The exposure to such low pressures experienced on an airplane can cause jet lag in a healthy person and a severe relapse for the chronic disease patient.”

Dr. Rhett Bergeron, M.D., Medical Director at the Center in Cumming, Georgia adds, “Lower pressure can cause a reduc-

tion in oxygen dilution into hemoglobin. This results in an overall reduction in oxygen. Flying or vacationing at high altitudes may not be a wise choice for the immune compromised or those with chronic conditions. But if these patients take hyperbaric treatments before and after flying, they can protect themselves.

The Oxygen Connection

So is there a connection between the relative hypoxia of air flights and the hypoxia common in chronic illness?

I turned to Ignacio Fojgel, M.D., Head of the Complimentary and Integrative Medicine Department at Maimonides University School of Medicine in Buenos Aires. He is a specialist in hyperbaric oxygen treatment who utilizes two chambers at his hospital in Buenos Aires.

Dr. Fojgel had written a research paper on the connection between the two, especially on neurological conditions like lyme. “The diminished oxygen levels in flight are sufficient for healthy individuals, but not for patients with pre-existing conditions,” says Fojgel. “They may show symptoms after as little as two hours of flight.”

Airplane flight for the chronically ill should therefore be regarded as a kind of potential altitude sickness, and precautions taken. Here are the conditions that can be triggered or worsened by altitude, notes Fojgel:

Hypertension, recent major surgery, valvular disease, diverticulitis, COPD, congestive heart failure, sickle cell trait or disease, unstable angina pectoris, Myocardial infarction, cardiac arrhythmias, congestive heart disease, peripheral arterial insufficiency, thrombophlebitis, osteomyelitis, pneumothorax, pulmonary hypertension, ulcerative colitis, epilepsy, chronic fatigue (CFIDS), lyme disease, and any other chronic illness.

Fojgel believes that a good deal of jetlag is actually a mild form of altitude sickness. “Most in-flight and post-flight disorders, including most so-called “jet-lag” can be traced to the hypoxic event called air travel. If a flight doesn’t traverse more than two time zones, any such incident should not be termed jet-lag, but

(Continued on page 7)

Baby Sophia Kate Smith... A Recovery Timeline



Sophia
April 25,
2002

3 days
old

Editor's note: The following is the medical summary, as well as image timeline of Baby Sophia Kate Smith. Sophia was born with severe neurological complications on April 22, 2002, leading to her Cerebral Palsy.

Yet today, her parents are so excited to see such dramatic and lasting changes in their baby, that they asked to share their story with readers.

The pictures cover Sophia's journey from birth to 6 months and display her developmental progress. All images are dated and show how well Sophia has progressed from birth until now.

Sophia's parents write:

Sophia Kate Smith

Date of Birth: April 22, 2002 – Medical / Developmental History

On March 25, 2002, about one month prior to birth, the Maternal Fetal Specialist diagnosed Sophia (in-utero) with Ventricular Megaly. This specialist also identified that Sophia's Choroid plexus was very abnormal in appearance.

Sophia was born via vaginal delivery on April 22, 2002 with an APGAR of 7 following 6 hours of labor. The ventricles were significantly enlarged at birth, although the fontanel was interestingly soft and sunken. The sunken fontanel perplexed the neurologist and neonatologist, since this finding is not consistent with increased intracranial pressure which causes Hydrocephalus.

A CT scan was performed on the day of her birth and the doctors

remained committed to the diagnosis of Hydrocephalus, despite the presence of the sunken fontanel. We immediately consulted with a Pediatric Neurosurgeon and he recommended an expedient shunt placement.

We were initially hesitant to proceed with surgery (secondary to the positive symptoms regarding her sunken fontanel), but we finally consented to neurosurgical shunt placement at the persistence of the neurosurgeon. He operated and placed the right ventriculoperitoneal shunt on Sophia May 8, 2002.



Sophia
Sept. 25,
2002

5 mos.
old

Sophia's development remained delayed at around a 1-2 month

level until September. In September 2002 we consulted with a Pediatric Ophthalmologist, secondary to poor vision, strabismus, lack of visual focus, and no attention to visual stimuli. We began patching her eyes at this point.

In December of 2002, she had an MRI which revealed a damaged visual cortex and visual association cortex. A (new) Pediatric Neurologist reviewed the (Dec) MRI on February 5, 2003, diagnosing her with thinning of the corpus colosum, peri-ventricular leukomalacia, and moderate CP. He described Sophia's visual cortex as being non-existent or 'missing'.

On February 4, 2003, we consulted with a well respected Pediatric Ophthalmologist, who said that he was uncer-

tain with her future visual abilities. Sophia could not visually track, her eyes were severely crossed, and the Ophthalmologist was not sure that she had any vision at all. Nevertheless, he prescribed her +425 lens / glasses and we continued with the eye patching.

After learning of the confirmed CP diagnosis and her missing visual cortex in February 2003, we immediately began researching hyperbaric treatment options.



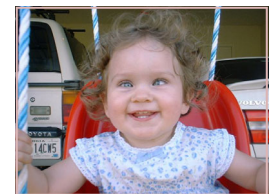
Sophia
Mar. 3,
2003

11 mos.
old

On April 22, 2003 we received our hyperbaric chamber and we began doing our own hyperbaric treatments at home. We ran two oxygen concentrators which usually flow about 7-10 liters a minute at 4.5psi, delivering the oxygen initially via an O₂ mask and later on, via the nasal canula. Sophia now prefers the canula over the mask. I, Hulet (Dad), have done all hyperbaric treatments with Sophia.

At the time we received the chamber on April 21, 2003, Sophia was functioning at about a 2 month age equivalent developmental level. She was not sitting, she was not rolling, she could not creep or crawl, she was not visually tracking, and she was not visually alert. She was still functioning like an infant.

One month after beginning hyperbaric treat-



Sophia Aug. 13 2003



Sophia

Feb 14, 2003

10 mos. old

Sophia
Feb 16,
2003

“One month after beginning hyperbaric treatments (in May 2003), she began to roll, displayed greater levels of energy, and she became more visually alert.”

Sophia Kate Smith... Continued

“The photos (which are dated) show the result of this surgery and obviously the improved eye brain connection that are developing as a result of hyperbarics and neurological development”

ments (in May 2003), she began to roll, displayed greater levels of energy, and she became more visually alert.

Her visual alertness and visual acuity improved from April through September 2003. In September, the Pediatric Ophthalmologist felt that the glasses and hyperbarics had helped to establish a good 'eye-brain connection'.

It was because of this perceived new "eye-brain-connection" that the Ophthalmologist recommended eye surgery. On September 18, 2003 she had vision correction surgery to correct the adductor muscle imbalance. The photos (which are dated) show the result of this surgery and obviously the improved eye brain connection that are developing as a result of hyperbarics and neurological development.

Sophia is now 21 months old. We are con-

“She is a very social and friendly child and really loves all people. Her language, vocabulary, and social skills are so advanced that people really do not realize that she is diagnosed with CP and a developmental disability.”

tinuing with her hyperbaric treatments. We are currently at 125 treatments and Sophia is now crawling, furniture walking / cruising the furniture, and is pulling to stand independently.

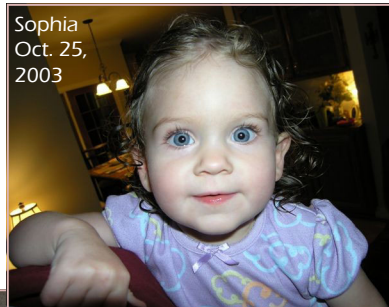
Sophia sees objects and people from farther distances and is exploring her environment with normal interest and intrigue. She continues to wear her glasses, and I would now classify her vision as being good.

Sophia

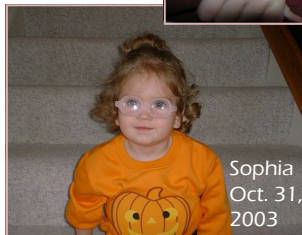
Sophia
Nov. 17,
2003



Sophia at 20 months, cruises the room on her own.



Sophia
Oct. 25,
2003



Sophia
Oct. 31,
2003

does have some mild tone in her legs (what therapists call - spastic diplegia), but she does not scissor her legs during gait and she is learning to walk well with her walker and push toys. She does wear bilateral ankle foot orthoses and can now lower herself down 15 stairs independently, but needs moderate assistance going up stairs.



Sophia
Nov. 27,
2003

Her vocabulary is at an above-age equivalent level with speech and language. She mimics all words we speak to her and has an expansive vocabulary. Sophia truly comprehends almost anything we say.

She is a very social and friendly child and really loves all people. Her language, vocabulary, and social skills are so advanced that people really do not realize that she is diagnosed with CP and a developmental disability.

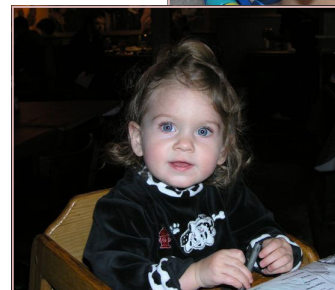
Sincerely,

Hulet Smith

Father to Sophia Kate Smith

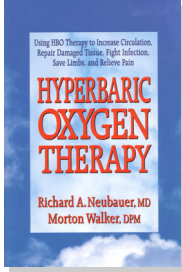


Sophia
Dec. 5,
2003

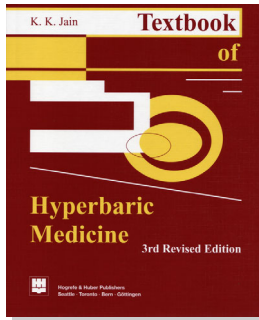


Sophia Dec. 20,
2003
21 mos.
125 treatments

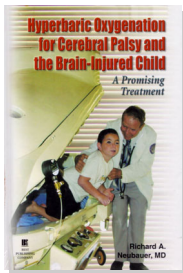
Literature now available from the IHA



Hyperbaric Oxygen Therapy
 by *Richard A. Neubauer, MD*
 \$14 paperback
 Item# HBOT-RAN

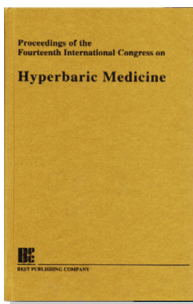
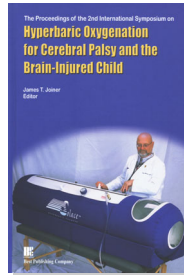


Textbook of Hyperbaric Medicine
 by *K.K. Jain, MD*
 \$150 Hardcover
 Item# TOHM-J



Hyperbaric Oxygenation for Cerebral Palsy and the Brain-Injured Child
A Promising Treatment
 by *Richard A. Neubauer, MD*
 \$27 Hardcover
 Item# HBTCPBI-RAN

The Proceedings of the 2nd International Symposium on Hyperbaric Oxygenation for Cerebral Palsy and the Brain-Injured Child
 Edited by *Jim Joiner*
 Best Publishing
 Hardcover \$35
 Item# SHBOCP-2



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Best Publishing
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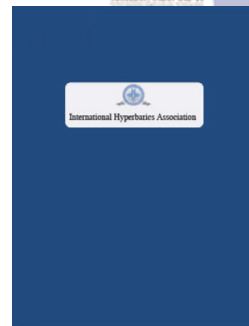
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 \$17 Binder
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CONTINUED

*USA Watch***LEGISLATION SOUTH DAKOTA—INSURANCE COVERAGE BILL #1093***(Continued from page 1)*

other autoimmune or other disease affecting the central nervous system.

Section 6. That chapter 58-40 be amended by adding thereto a NEW SECTION to read as follows:

Each service or indemnity-type contract issued by a nonprofit hospital service plan corporation that is delivered or issued for delivery in this state shall provide coverage for *hyperbaric oxygen therapy*, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous system, including cerebral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any other autoimmune or other disease affecting the central nervous system.

Section 7. That chapter 58-41 be amended by adding thereto a NEW SECTION to read as follows:

Each health maintenance contract that is delivered or issued for delivery

in this state, except for policies that provide coverage for disease or other limited benefit coverage, shall provide coverage for *hyperbaric oxygen therapy*, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous

system, including cerebral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any other autoimmune or other disease affecting the central nervous system.

*For more information please log on to:
<http://legis.state.sd.us/sessions/2004/bills/1093p.htm>*

“[Each]...delivered or issued for delivery in this state shall provide coverage for hyperbaric oxygen therapy, neuropsychological testing or treatment, or community reintegration activities necessary as a result of either a traumatic brain injury or any other disorder affecting the central nervous system, including cerebral edema, cerebral palsy, multiple sclerosis, anoxic encephalopathies, and any other autoimmune or other disease affecting the central nervous system.”

The Hidden Link

CONTINUED

(Continued from page 3)

ascribed to hypoxia.”

In fact, says Fojgel, “A patient of mine had a stroke after flying from Bangkok. After only 25 hyperbaric (HBO) sessions, there were no signs left of the stroke. The doctors at the best clinic in Buenos Aires were aghast.”

Future Travel Solutions

So what can you do if you travel frequently by airline, or if you have any kind of chronic illness that could be worsened by air travel?

I know what I’m going to do from now on: pre-treat the day before in my chamber,

and know ahead of time which practitioners have mild chambers in the city I’m going to, so that I can have a treatment the day after I touch down.

For a particularly long flight—one to, say, Brazil, Israel, or New Zealand, I’d also ask my doctor for a prescription for in-flight oxygen. Dr. Fojgel also recommends the following:

- Heavy meals should be avoided prior or during an ascent to altitude, or in air transportation.
- Alcohol promotes dehydration, and is to be avoided.
- Oxygen by mask should be provided

to neurological patients flying for more than 2 hours.

- “Super-charging” with several hyperbaric sessions, prior to the flight or ascent can be considered if there is a history of incidents, or if recovering from a recent illness, and/or Hyperbaric treatment can be indicated after an altitude episode, as a rapid recovery measure.
- Adequate sleep is recommended, but not onboard. If it is not possible to stay awake, do not lie down, but sleep with the back of the seat in a 45° position. Exercise in your seat (or aisle-walk) every two hours.

INTERNATIONAL HYPERBARICS ASSOCIATION



The International Hyperbarics Association is a coalition of doctors, parents, patients, corporate chamber-industry professionals, hyperbaric center owners, and above all members who are committed to the cause of medical hyperbarics.

Our members come to us from all geographical areas with one common goal— to share their knowledge and information regarding the latest hyperbaric news.

Our driving force is our members, who are committed to do all we can “to give life to the world.”

— “Mundo vitam dare”

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www.hypertc.com