

THE PRESSURE POINT

International Hyperbarics Association

Volume 4

Issue 6/7

NEW IHA MEMBER SERVICES

Inside this issue:

New IHA Member Services	1,7
HBLT Corner: Hyperbaric Laughter Therapy	1,4
Q & A: Hyperbarics How does hyperbarics heal?	2
Updates and Testimonials	3, 6-7
Mild HBO Therapy as an Immune Modulator	5
Membership Information & July Symposium Calendar	8-9
A New Method of Treatment of Neurodegenerations. A Case of Alzheimer's Disease	10-11, 14
Hyperbaric Oxygen Therapy for Children with Malignant Tumors	12
Summertime Safety: New Adventures	13, 15
About Us Announcements, Referrals	16

IHA Legal Services and New Staffing



In the last year the IHA has received many suggestions and comments. Of all the comments, there were two areas that seem to be on everyone's mind: staffing and legal advice. To address the staffing needs, plans are underway to acquire an office and personnel to receive and process all calls, requests and conduct general association business. The IHA has several positions available for volunteers and some limited employment positions. It is our goal to have the new office in place by September 2003.

Furthermore a more exciting development in the area of legal services for the IHA has now received funding and is moving forward. In the ongoing effort to help further the hyperbaric industry, the IHA is actively seeking legal services. Several attorneys have been interviewed and it is expected that by September 2003, an attorney will be selected and retained by the IHA.

There are two proposals being considered for the duties

of the attorney:

Proposal 1 Retained General Counsel

The attorney would serve as the retained general counsel for the IHA. In that capacity, the attorney would advise the IHA, its board of directors and officers regarding all legal matters or issues that arise or that should and could be prevented from arising. Such advice would cover corporate matters, including the IHA's articles of incorporation, bylaws, tax issues, as well as a wide range of other health

policy matters important to the IHA and its membership. In this capacity, counsel would also provide, when authorized, testimony before governmental bodies.

As general counsel, the attorney would handle any litigation the IHA determined to file for itself or on the behalf of its members against government or private institutions where a policy, important to the IHA and its membership, would be in issue. General counsel would report to board

(Continued on page 7)

Special points of interest:

- New Staff and Legal Counsel
- Children's Summer Safety
- Comic Relief
- Alzheimer's Study
- Malignant Tumor Therapy—Any Age
- Patient Testimonials
- Anti-Aging Study

HBLT CORNER: HYPERBARIC LAUGHTER THERAPY



O₂ Blues

Quotes from Actual Medical Journals:

"Discharge status: Alive but without permission."

"Patient has left his white blood cells at another hospital."

More Quotes:

"While in the ER, she was examined, X-rated and sent home."

"Patient was alert and unresponsive."



Humor therapy is becoming increasingly popular



Q&A: Hyperbarics

How does hyperbarics heal?

Hyperbaric Therapy is a specialized therapy that uses an increase in the atmospheric pressure to allow the body to incorporate more oxygen into its blood cells, blood plasma, cerebral-spinal fluid, and other body fluids.

At sea level we have 1ATA (14.7psig) which allows our lungs to absorb oxygen from the air. If we go to higher altitudes, the pressure drops and we the lungs would not be able to absorb the oxygen from the air. This is why oxygen masks drop in an airplane at high altitudes – to increase the O₂ content due to the lack of pressure. The exact opposite happens when you go to lower altitudes (below sea level). There the pressure is greater (above 1ATA) and now the lungs can more easily absorb the oxygen.



Consider this analogy. A bottle of soda-pop is a pressurized vessel. In the bottle we have a liquid. We then have 'carbonation' (the gas) and also pressure. When the bottle is sealed we do not see bubbles. The moment we twist off the cap and break the seal, we hear the 'swish' and the pressure is released in the bottle. Now, all of a sudden we see

the formation of bubbles in the bottle and as time goes they grow and float to the top of the liquid. Certainly the pressure in the bottle is quite high and the nature of the gas

(carbonation) is a different than the 21% O₂ in the ambient air. However the concept is the same. In the hyperbaric chamber, as the pressure goes up, more O₂ from the air is 'pushed' into the fluids of the body.

The healing occurs when a severely compromised tissue in the body begins to receive oxygen, and blood circulation to the tissue resumes. Note: A damaged tissue may not have been receiving enough blood for it to heal, due to a lack of blood circulation caused by the initial trauma.

Here lies the healing magic of Hyperbaric Therapy. Inside the pressurized chamber, the story changes. The injury site now begins to receive a healing dose of oxygen through the surrounding body fluids and plasma—even if the blood supply to the tissues are compromised.

Furthermore, to boost the oxygen concentration in the chamber, supplemental oxygen may be added into the chamber during treatment. As explained before, this oxygen will become infused into the numerous types of liquids in the body—blood, plasma, cerebral fluids.

And like the soda-pop in our analogy, the oxygen-uptake will remain in the body for a time after treatment.

The Gas Laws of Physics state that more gas is dissolved in a liquid by increasing the pressure of the gas.

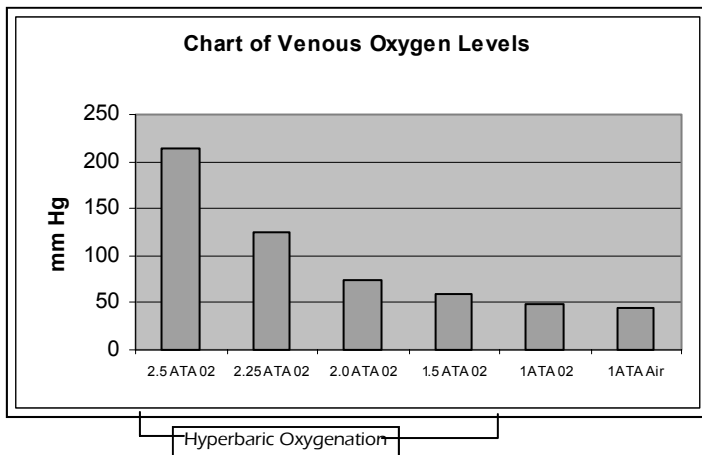
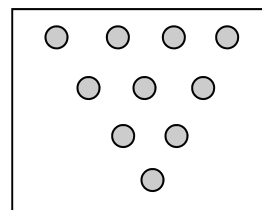


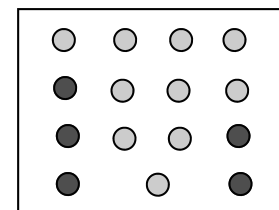
Chart: The goal here is to increase tissue oxygen delivery above 50mmHg. Notice in the graph, that even 100% O₂ at one atmosphere has little effect on increasing the level of deliverable oxygen to the tissue level. You need pressure to do this (especially if circulation is compromised).

Note: Breathing pure oxygen at 2 Atmospheres, gives 10 times the regular amount of oxygen (2 x 100% vs. 21%). In one hour, humans can inhale 2.4 pounds of oxygen! (Normal is 6 pounds/ day). Red blood cells instantly fill with oxygen and the extra oxygen dissolves directly into the blood fluid. In a few minutes, this extra oxygen builds up tissue oxygen levels far above normal.

Oxygen per Unit—
Volume of Inhaled gas



OF OXYGEN MOLECULES AT 1.0 ATA (10)



OF OXYGEN MOLECULES AT 1.5 ATA (15)

The Principle of Hyperbaric Oxygen Therapy is simple. Increase the atmospheric pressure and get a *directly proportional* increase in available oxygen.

In other words, a two fold increase in the pressure would equal twice the available oxygen *molecules* to breathe. [Half that, would yield half more, as shown].

UPDATES AND TESTIMONIALS...

George Melendez—Near Drowning Survivor



Editor's Note:

As reported in the November 2002 issue of *The Pressure Point*, George suffered brain injury as a result of nearly drowning in a shallow pool of water after being rendered unconscious from a car accident.

George's mom writes:

George's accident occurred on January 17th, 1998 at about 2am. It was a one-car accident. From what we've been told, he lost control of his Mitsubishi Eclipse in a neighborhood in southwest Houston where he was on his way with a couple of friends to spend the night at his friend's house. The car went up someone's front yard, became airborne about 12 feet and landed in a golf course retention pond. The car was not completely submerged as there was about a 2-3 inch air pocket inside the car.

George sustained trauma to the right side of his head, which rendered him unconscious, and because of this he was unable to take advantage of the air pocket. He was under water for about 8-10 minutes. Police and emergency personnel rescued him, and he was revived at the scene. He was then life-flighted to a local hospital in the Houston Medical Center where he was stabilized.

All the while, they told us George was brain dead, and then when that didn't pan out, they said he would be a vegetable and succumb to an infection or organ

failure. He spent the next 7 months in and out of ICU's, re-hab hospitals and such, until he finally came home.

Needless to say, it's been a very trying and devastating experience for Mom and Dad and the rest of the family but we thank the Lord every day that he is still with us and we still have hope that there will be a miracle in his life...

We've come a long way in 5 1/2 years since George's horrible accident and yet I know that there will always be people who will think he's no better off today than on that dreadful day. One thing

Pictures tell it all.
Above: George, before starting treatments at home.
Below: after 40 treatments at home.



Visit George Online at <http://724.27.101.69>

I've known for sure from the beginning is that my son is in there, somewhere locked up inside his outer body. Thankfully today with the help of mild hyperbaric treatments, what is locked up *inside* is starting to emerge a little at a time.

Last August (4+ years post accident) we discovered HBOT and with it came little miracles that I believe are a direct result of this treatment. After doing 22 treatments at a clinic, we purchased a soft-sided portable chamber for home use. The clinic was too far and other factors in our personal daily lives did not permit us to continue traveling to the clinic.

I know that there is much debate over the efficacy of the soft-sided chambers vs. the

hard shells with 100% oxygen, which I cannot prove or disprove.

All I can do is report what we have seen in George since we started using the soft-sided portable chamber. George has now completed 77 treatments in the soft-sided chamber.

George Melendez – June 15, 2003

What is new with George:

- Increased alertness ♥ Eyes are wide open
- ♥ Increased awareness of others around him
- ♥ Tracking with eyes consistently
- ♥ Face turns to whomever is speaking to him at the time
- ♥ Started mouthing words, ("I love you," "mom," "what," "who," and many more that we cannot make out)
- ♥ Posture is mid-line in bed and sitting
- ♥ Spasticity improved slightly (not scissoring his legs)
- ♥ Awareness of physical deficits
- ♥ More animated
- ♥ Sense of humor has kicked in
- ♥ Smiling and blushing appropriately
- ♥ Good head control
- ♥ Purposeful hand and arm movement
- ♥ Swallowing improved greatly
- ♥ Continues to mouth more words and has added voice to "no" and "yeap"
- ♥ He writes his name and other letters
- ♥ Drooling has stopped and in the rare occasion that he feels saliva running down the side of his face, he reaches up and wipes it off
- ♥ Recently when we tell him his treatment is over and it's time to get out, he holds on to the frame and lifts his head and shoulders trying to sit up
- ♥ Scary one, we often find him completely side ways in his bed with legs hanging out. When we ask if he's trying to get up he answers "yes"
- ♥ He plays ball with us; he'll throw at targets we point out and even holds the ball correctly for fast, knuckle and curve throws
- ♥ He reaches for my hand which I hold high above him with his arm and feet.

These improvements may seem miniscule to some, but to us they are monumental and making his care giving so much easier. I am confident that improvements will continue, and will keep you posted on George's journey back to wholeness.

Pat Flores, Mom to George Melendez

A SHORT HISTORY OF MEDICINE: "Doctor, I have an earache."

2000 B.C. - "Here, eat this root."

1000 B.C. - "That root is heathen, say this prayer."

1850 A.D. - "That prayer is superstition, drink this potion."

1940 A.D. - "That potion is snake oil, swallow this pill."

1985 A.D. - "That pill is ineffective, take this antibiotic."

2000 A.D. - "That antibiotic is artificial. Here, eat this root!"

Terminology Mistakes:

It is human to take a strange word and interpret it in terms that are familiar, so we have all had patients complaining of:

"chicken pops", and" infantigo"

A little more unusual is " The Smiling Mighty Jesus" (spinal meningitiis)

Also:

- ❑ 'Sick as hell anemia', for *sickle cell anemia*
- ❑ 'Incompetence' = *Incontinence*
- ❑ 'Freakin' urination' = *Frequent urination*
- ❑ 'Cord zone injections' = *Cortisone injections*
- ❑ 'Muculous' = *Mucus*, ❑ 'Fleem' = *Phlegm*
- ❑ 'Pillicillin' = *Penicillin*, ❑ 'Sockafus' = *Esophagus*
- ❑ 'Old timers disease' = *Alzheimer's disease*
- ❑ 'Technical shot' = *Tetanus shot*,
- ❑ 'Wheezeling' = *Wheezing*

& Anecdotes:

—Mom came in with her 8 year old with concerns of her child having itching in the ANNUAL area.

—*Mom:* "I thought he might have infectious 'JUNK-O-VITIS', but he didn't have any junk coming out of his eyes."

—Three kinds of blood vessels are arteries, *vanes* and *caterpillars*



More Laughter Therapy...

**Doctors Types:**

There are several kinds of doctors, and it is told that they can be differentiated by the following method:

General Practitioners—know nothing and do little.

Surgeons—know little and do everything.

Internists—know everything and do nothing.

Pathologists—know everything and can do everything, but it's usually too late.

**Linguistic Doctoring:**

Son: Father, Can I ask you a question?

Father: Ok ask.

Son: When a doctor doctors a doctor, does the doctor doing the doctoring

doctor as the doctor being doctored wants to be doctored or does the doctor

doing the doctoring doctor as he wants to doctor.

Father: !!!?????!!!!

On Specialties:

"What kind of job do you do?" a lady passenger asked the man traveling in her compartment.

"I'm a naval surgeon," he replied.

"Goodness!" said the lady. "How you doctors specialize these days."

**GUNNAR HEUSER,
MD, PHD**

**OLGA AGUILERA,
MD**

**SYLVIA HEUSER,
MA**

**SHAYNA KASBEE,
BA AND TANYA
PEACH, BS**

Mild HBO Therapy As An Immune Modulator

Mild Hyperbaric Oxygen treatment (mHBO) in a portable chamber, at 1.3 ATA and 24% oxygen, administered daily for ten consecutive sessions (1 hour each) improves brain function as measured by SPECT brain scan and a test for attention and reaction time (T.O.V.A).

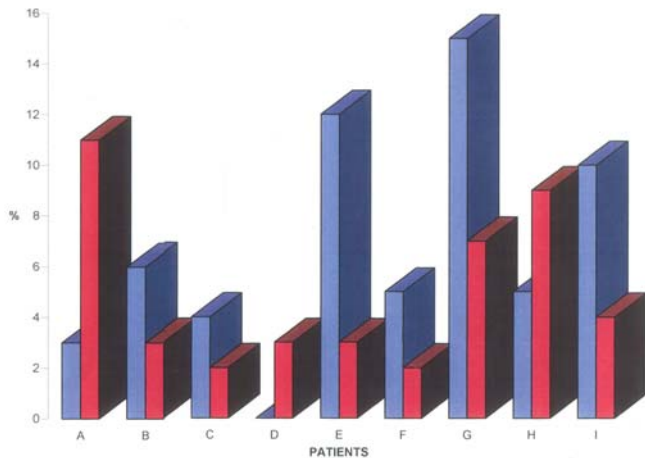
Patients often report a sense of well-being and youthfulness after mHBO therapy.

We wondered whether immune function is positively affected by mHBO. We chose apoptosis (a function of programmed cell death) and natural killer cell activity (a function of immune surveillance) as parameters in 9 patients.

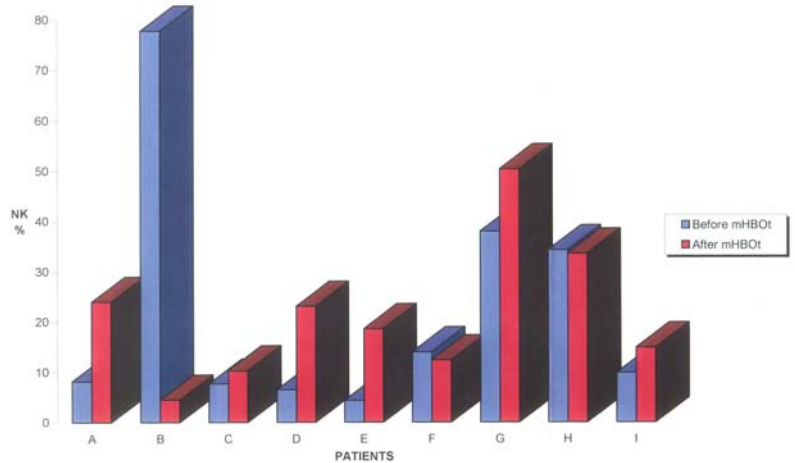
Our preliminary data, illustrated in graph form, show that 10 mHBO sessions can positively affect immune function: natural killer cell function increases and apoptosis values decrease. More sessions may be needed to affect positive results in an even higher percentage of patients.

We conclude that mHBO can improve function. Since apoptosis numbers increase with age, the reversal of that process may have significance with regard to aging.

Apoptosis Levels Before and After mHBOt



Natural Killer Cells Activity Before and After mHBOt



UPDATES AND TESTIMONIALS...

Nathan Keeney—Survivor of Traumatic Brain Injury

June 19, 1998—a typical 17-year old teenager was at the mall with his best friend. On their way home they turned in front of a pickup that hit them broadside, striking Nathan's door. Everything that we ever perceived as normal changed at that moment.

Nathan was taken by helicopter to a local trauma center. He was in critical condition and had many internal injuries, including a severe closed head injury, GCS 4. They stopped the internal bleeding and repaired the damaged organs during the night, but the head injury couldn't be fixed so easily.

The swelling began and caused additional damage to his brain. We were told at one point that they suspected he was brain dead. Tests proved that was not true.

Four months later, Nathan was discharged from the hospital. He was unresponsive, had a tracheal-tube, a G-tube, J-tube, supra-pubic catheter and was on 11 different medications. The professionals recommended placing him in a nursing home—expecting him to remain in that condition for life. Instead, Nathan came home and began his long journey of recovery.

A few months later we began to see improvements. Nathan would track his brothers as they walked around his room. His youngest brother could get him to hold a small 'nerf' ball and eventually had him putting it through a mini hoop.

Several months later, the tracheal-tube was weaned and removed. Still, no rehab would accept Nathan for the funding he had available. We continued at home with everything of which we could think to stimulate

him. We took whatever outpatient OT, PT and speech therapy we could get.

We found a group of caregivers online at TBINET.ORG that provided great ideas and wonderful support and hope for families dealing with brain injury.



Nathan Keeney suffered a Traumatic Brain Injury, which almost took his life.

We weaned several 'meds' as time went on, which seemed to help with him "waking up." Nate had a baclofen pump placed in December of 1999, and this was really a turning point for him. He wasn't in so much pain and so didn't require the sedating medications to control the pain and spasticity. He became much more alert. His digestion improved. He no longer needed the J-tube.

We managed to get a couple weeks of inpatient 'rehab' several times, but each time, Nathan's progress wasn't enough for him to have an extended stay. He still didn't walk, had no movement of his legs, could not talk, but could nod his head yes or no. He gained better control of his left arm and hand, even though he had been right-handed before the accident, but had no use or movement of it. We began to slowly feed him orally and

in Oct 2001, the G-tube was removed.

In the summer of 2002, Nathan had his first Hyperbaric Oxygen (HBO) treatments. He had 20 treatments with 100% oxygen at 1.5 ATA, 2 one-hour treatments per day, 5 days a week. He seemed more agitated during the treatments than usual, which later subsided. We weren't sure if 2X a day was a little much for him, if it was a result of his increased awareness of his limitations or if it was due to a change in routine and being away from home. Whatever the matter was didn't compare to the good that followed.

Prior to treatments, Nathan could read one word, here and there, and match it to the appropriate picture—but not consistently. Then, a couple of days before we were to return home, we went to a restaurant where Nathan read the menu and picked out his meal. I

checked and double checked, and YES, he was reading. We also noticed improved head control, better saliva control, improved circulation in his feet, increased memory and the ability to kick his feet on command.

We were very pleased with the results from so few treatments, but knew it wouldn't be possible to travel out of town again anytime soon. We heard about the portable mild chamber and decided to check it out. We liked what we saw, and looked into the experiences from others who were using it and decided on the Vitaeris 320 unit from OxyHealth.

To date, Nathan has had 40 treatments in

(Continued on page 7)

(Continued from page 6) Nathan Keeney

his chamber and we have seen a continuation of the improvements of last summer—without the increased agitation this time.

Today, Nathan writes his ABC's, no mistakes. He is now doing math, simple addition and subtraction. The addition seemed to be old knowledge that he was now able to access. The concept of subtraction took a little explaining from his dad, but then Nathan understood, and now makes few mistakes.

Before any HBO, Nathan could write—but was limited to only copying words—that is, void of spelling ability. He now is spelling or at least getting close enough, for us to figure it out. He is still nonverbal so this new step is huge in his ability to communicate.

We think the mild chamber was absolutely the way to go for us. Would the mono chamber be better? We don't know for sure.

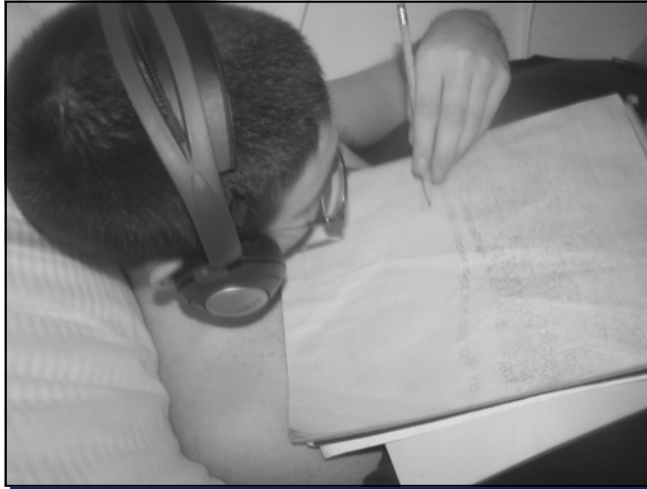
But we do know that we are seeing improvements with the mild.

With our home chamber, Nathan is more comfortable in his own environment, we set

our own schedule and he gets to sleep in his own bed at night. It's better for his brothers who, in the last five years, have sacrificed more than any kids ever should. And, best of all, he doesn't have to leave Dad at home for weeks at a time in order to get the treatments he needs!

Nathan is 5 years post-injury now. He has come so much farther than any doctor ever predicted. And, we know that he will continue to WOW us all in the future. For now, he is happy, healthy and a real joy to be with. We know that HBO has been a positive factor in his recovery along with his great attitude, constant hard work and mostly lots of hope, faith and love!!!

Paulette Keeney, Nathan's mom



Nathan writes, spells and reads inside his home chamber.

NEW IHA MEMBER SERVICES (CONTINUED)

(Continued from page 1)

of directors and the executive officers, and would attend all meetings of the board and membership and report to them. General counsel would write a column in the IHA newsletter, *The Pressure Point*, on legal developments and would provide timely information for the IHA website (www.ihausa.org).

Proposal 2 Retained General Counsel and Director of a Limited Consultation Service

With the addition of the limited legal consultation service, this is the optimal package we can offer. This service would entail all the duties and services of General Counsel plus the following.

The objective of the limited legal consultation service of the IHA would be to assist its members to comply with the labyrinthian administrative requirements to appeal adverse payment, recoupment and sanction decisions by Medicare carriers and/or the Centers for Medicare and Medicaid Services and the State Medi-

caid agencies, as well as to assist them with their compliance with all other government requirements relative to the practice of medicine and their participation in the Medicare, Medicaid and other gov-



ernmental and non-governmental payment systems so as to address legal issues that arise or, hopefully, prevent legal problems from arising.

The limited legal consultation service would not actually represent the members; rather, it would provide limited legal consultation by means of individual telephone conferences with those who access its services, written memoranda to those members whose questions warrant

legal research, and general newsletters, bulletins and brochures, all geared to provide the members with the information necessary to appeal adverse decisions of any government agency or private third-party payer and to make appropriate, well-reasoned decisions.

Whenever a member is in need of actual legal representation, he or she will be so informed. The legal service could assist the member in locating competent counsel and could then provide that counsel with the necessary background law and research to ensure that the member is properly represented as less cost.

There are several factors that will need to be addressed before the final decisions are made. However, due to the vast numbers of IHA members, the costs for legal services to all associates may be too much of a financial burden. Therefore, the Limited Legal Consultation Services may be a subscription service that is available for a nominal fee of \$50-100 per year for General Members. In the coming weeks an announcement will be made.



JULY 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	☼ 16 Pre-Reg Hors d'oeuvres	☼ 17 Luncheon w/ Speaker	☼ 18 Banquet w/ Speaker	☼ 19 Dinner & Parent Roundtable
20	21	22	23	24	25	26
27	28	29	30	31		

☼ Symposium held at Hyatt Regency Pier Sixty-Six 2301 S. E. 17th St.. Causeway, Fort Lauderdale, FL

Schedule of Events 3rd International Symposium for Cerebral Palsy and the Brain-Injured Child

- July 16—Pre-Registration for Symposium; Hors d'oeuvres 5-7:30 pm
- July 17-19—Full 3 day Conference/Symposium
- July 17—Symposium Luncheon with Speaker, "A surprisingly new concept for the treatment of Cerebral Palsy"
- July 18—Symposium Dinner Banquet with Speaker, "The future of transportation for our children"
- July 19—Parent-to-Parent 'Roundtable Discussion' and Dinner; Dinner sponsored by the IHA

Join the IHA

Membership Schedule

Sign up for:	Renewal	Dues
<input type="checkbox"/> Prime Corporate Membership	Annual	\$15,000
<input type="checkbox"/> Corporate Membership	Annual	\$500
<input type="checkbox"/> Provider Membership	Annual	\$500
<input type="checkbox"/> General Membership	Annual	\$10
<input type="checkbox"/> Directors, Chairs, Special Appointees	Elected	TBD
<input type="checkbox"/> Participating Membership	Upon approval	TBD

Method of Payment

Make checks payable to:

International Hyperbarics
Association

Name (please print) _____

Address (Include Business Name) _____

Phone _____

Email address: _____

Signature _____ Date _____



Membership Pays

Provider and Corporate Associates

With the International Hyperbarics Association, membership pays.

Provider and corporate members receive the added benefits of graphic design and editing services for their business publishing needs, as well as many other tools to market their hyperbaric clinic.

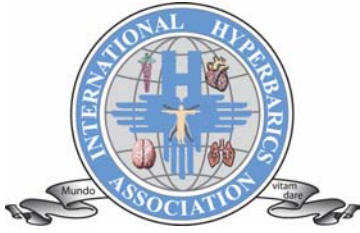
In addition, conference sponsorships and special research grants are available.



THE INTERNATIONAL HYPERBARICS
ASSOCIATION

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International Hyperbarics Association

Provider Membership

New Member **Renewal**

Name Dr. Referred by _____

Business Address:

Home Address:

Telephone (____) _____

Telephone (____) _____

Fax (____) _____

Fax (____) _____

E-mail _____

E-mail _____

CERTIFICATION

In making this application to the **International Hyperbarics Association**, and if I am accepted, I agree to abide by all of its rules, regulations and policies as these may be promulgated from time to time.

Attached is my membership fee of \$500, renewable yearly.

Executed on _____ at _____
Date *City and State*

Name (*print*) _____

Signature _____

IHA use only	Membership No.
--------------	----------------

A New Method of Treatment of Neurodegenerations. A Case of Alzheimer's Disease.

Kazantseva, N.V., Volkova, N. A., Timofeev, V.T., Petukhov, E. B., Makarova, L.D.

Department of Neurology, Russian Medical State University, Moscow, Russia

Introduction

A new method of treatment of neurodegenerations consists of the combined use of ciclosporine A and treatment in a barochamber under surplus pressure 50-70 mmHg. Patent # 2182013, 2002 PCT/RU02/00070.

Since October 1999, we have used in treatment of neurodegenerations (MS, ALS, consequence of severe stroke and Alzheimer's disease) a new method—a combination of ciclosporine A with a minimized hyperbaric treatment (a curative compression in a barochamber). A total of 17 patients were treated: 10 with progressive multiple sclerosis, 3 with consequences of severe stroke, 2 with ALS, and 2 patients with Alzheimer's disease. Seven patients received two and more courses. All the patients had previously been administered minimized hyperbaric treatment (MHT) with antioxidants without ciclosporine A. Clinical and immunological criteria for choosing the optimum dose of ciclosporine A and its abolition were developed.

Mechanisms of MHT Effect

Minimized hyperbaric treatment (MHT) - a curative compression in a barochamber in the narrow range of surplus pressure (less than 1.1 ATA and less than 30% of O₂) with antioxidants responsible for the electrons' transport in the respiratory chain of mitochondria has been applied in treatment of more than 3000 patients since 1996.

The basis for the therapeutic effect is activation of oxidative phosphorylation while pressure is being increased and P₅₀, V₅₀ const accompanied by elevated O₂ transport to tissue.

Even at 1.1 ATA one can observe 100% O₂ hemoglobin saturation, auto-regulated oxygen uptake increases by 5-10%. This amount of oxygen is enough to normalize O₂ deficit in the brain even in stroke. Further increase

in pressure in a barochamber augments non-regulated soluble O₂ content which sharply changes the redox-potential of plasma and cells, and causes development of oxidative stress.

Combination of MHT with antioxidants responsible for electrons' transport in the respiratory chain of mitochondria significantly increases the curative effect of the method, lipid's peroxidation indices being normalized.

Mechanisms of Action of Ciclosporine A

- Immunosuppressor with reversible effect
- Inhibits development of cytokine cascade.
- Stabilizes the membrane of mitochondria.
- In experimental studies ciclosporine A decreases the consequences of ischemia: it inhibits apoptosis initiated by brain ischemia.
- Results of the use of Cyclosporine A in combination with MHT.
- Mutual increase in the curative effect.
- Stable therapeutic after effect.
- Normalization of immunoregulation.
- Stable immunosuppression.
- Normalization of ability to induce apoptosis (CD95).

History of Disease

The patient has been observed in our clinic since she was 60, when she had a considerably impaired memory, thinking and spatial ability.

She was brought by her son and she only complained of sleep disturbances and day-night reversal. She had had decline cognitive disorder for 10 years, which worsened in the preceding year. There had been a Gradual onset at 50, when she was

forced to leave her teaching job, continuing with a progressive cognitive decline, cerebral atrophy on MRT, and non-specific change on EEG defined the diagnosis of AD. Other neurological and psychiatric disorders were excluded.

Methods

For the estimation of mental function, we used standard tests based on A. Luria (1973) method and MMSE before and after treatment. **Complex investigations** included EEG, lymphocyte subpopulations and Ig G, M, A studies, and CT.

CT before treatment—1997

Diffuse cerebral atrophy with enlargement of the cortical sulci and an increase in the size of ventricles.

EEG—diffuse slowing of cortical activity, slowing and reduction of the alpha rhythm and accentuation of the theta activity.

Diagnosis

Deficit of thinking and reasoning, absence of focal brain injury and psychiatric disorders. Impairment of short-term and long-term memory. Multiple cognitive deficits including worsening of verbal and visual memory, constructional abilities with constructional apraxia, impaired spatial abilities. Sleep disturbances. Cerebral atrophy on MRT and non-specific change on EEG. She had a primary neurodegenerative disorder—Alzheimer's Disease.

Neuropsychological examination

- 18.09.01—before applying of ciclosporine A
- Impairment orientation in space and time.
- Considerable disturbance in executive functioning, such as planning, sequential organization and attention.

(Continued on page 11)

(Continued from page 10) Alzheimer's Case

- On examination, she was found to have loss of memory and storage deficit.
- Memory capacity for date especially decreased.
- Visuospatial cognition, loss of visuospatial memory.
- Significant memory loss and non-verbal cognitive deficit.
- Severe impairment with a temporal gradient, favoring the most recent periods.
- Comprehension deficit of the meaning of pictures and adage.

Treatment

A new method was used in the treatment of a sixty three year old woman with AD. The patient has been observed in our clinic since she was 60, when she had a considerably impaired memory, thinking and spatial ability.

Since October 1997, the patient has received 10 courses of minimized hyperbaric treatment. She received Coenzyme Q10 and Pico-nogenol, 2-3 times a year during the whole year.

Since October 2001, the patient has obtained 4 courses of ciclosporine A (2-4 mg/kg) in combination with MHT. The new method appears considerably more effective than applied earlier (without ciclosporine A).

Even after the first course of treatment according to the new method, qualitative changes in the cognitive functions were observed: a marked increase in short-term memory, but also in visual orientation and thinking, accompanied by a notable improvement in personal activity of daily life.

After each course, her short-term memory improved, sleep became normal, positive EEG dynamics were observed. The rate of the disease progress also slowed down.

The new method proved to be much more effective than without ciclosporine A. Regress of the previously stable impairments and more long-lasting after-effects were de-

tected.

An important distinction of the new method was normalization of ability to induce apoptosis, which can account for the therapeutic effect.

No side effects of ciclosporine A administered in combination with treatment in the barochamber were observed.

Patient Examination

The patient was examined at different stages of illness—before and after each course of treatment.

The dynamics of the Mini-Mental State Examination results are shown in Fig. 1.

For a more detailed comprehensive examination, we used Luria's (1973) method.

The Regression of Cognitive Function

The rate of cognitive deterioration was considerably slower after the first and second courses of treatment with the new method, and more noticeably after the 3rd course.

Test of memory information and concentration was best after the 3rd course.

The degree of cognitive impairment and previous rate of the cognitive decline made unexpected the cognitive improvement after the use of the new method. Subsequent stabilization and considerable improvement after each course of treatment made evident the curative effect of the new method.

Considerable improvement of daily activity and behavior was apparent only after applying the ciclosporine A with MHT.

Executive aspect of cognition, such as planning sequential organization and attention considerably improved after the use of ciclosporine A.

Increased sensitivity to the semantic properties of information following the use of first course with ciclosporine A.

The dynamic of Immunological parameters, shown in Fig. 2.

Before the course of ciclosporine A, a marked impairment of immunoregulation, activation of humoral immunity as well as a valid increase in ability to induce apoptosis (CD 95) was noted. Before the 3rd course of therapy when prolonged therapeutic after-effect and stabilization in the patient's state were observed, the immunological state was normal. Before the 4th course, resumption of the change was noted.

Discussion

This observation illustrates quite well a marked curative effect of the new method in the treatment of neurodegenerations. Restoration of the complex of cognitive functions—of thinking and understanding, allowing for a considerable improvement in a patient's daily living and behavior, was especially expected.

A marked curative effect of the new method is due to a mutually increased effectiveness of its components: immunosuppression and stabilization of the state of mitochondrias' membranes caused by ciclosporine A and restoration of tissue respiration and microcirculation by a minimized hyperbaric treatment with antioxidants.

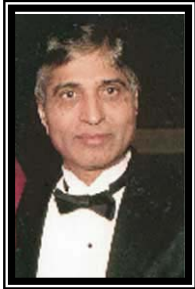
Conclusion

Considerable improvement of previously stable or declined cognitive functions was shown in all cases of the use of ciclosporine A with MHT. The investigations throw light upon the mechanisms of action of the new method:

1. Recovery of glucose utilization in the brain.
2. Restoration of functional activity of the brain and normalization of EEG.
3. Reduction of ability to induce apoptosis.
4. Improvement of thinking, behavior and daily life activity.

(Note: Figures Shown on Page 14)

HYPERBARIC OXYGEN THERAPY FOR CHILDREN WITH MALIGNANT TUMORS



By T. R. Shantha, MD, PhD, FACA

The following children have been to our clinic for cancer protocols. All these children were treated with hyperbaric therapy along with two cycle Insulin Potentiation Therapy (IPT) with low and high dose chemotherapy, hyperthermia, and nutritional support with very good results.

Case I: Judah D. (age 2) Leukemia: After intense chemotherapy for Leukemia, Judah came to us with a compromised immune system. He was not in total remission. The family wanted us to try Complementary Alternative Medicine (CAM). He was lethargic and void of energy. The clinical protocol included hyperbaric therapy, low dose chemo with IPT, high dose vitamin C and nutritional intravenous therapy.

Judah's mother accompanied him inside the hyperbaric chamber, and they both thoroughly enjoyed the session. Over the three weeks he was in our clinic, Judah showed marked improvement, especially where energy was concerned. His leukemia responded to the therapy.

Case II: Hannah G. (age 5) Ependymoma of the brain stem: This young girl arrived at our clinic having been pronounced terminal. The doctors in California had given her two weeks to live due to the advanced condition of her brain stem ependymoma.

She suffered partial left side paralysis with drooping eye lids and was barely able to walk. Due to the delicate nature of this child and her fear of needles, we encouraged her parents to have a port installed.

Until then, we utilized hyperbaric therapy almost exclusively. She improved significantly in the two weeks she was at the clinic. Her paralysis and drooping of the eyelid went away. She was able to walk and paint pictures.

We treated her with two cycle IPT, nutrition, and hyperbaric therapy. This girl continues to do well and is still without paralysis six

months after she has left the clinic.

Case III: Alex R. (age 10) glioblastoma: Alex came to us with an inoperable brain stem glioblastoma. He showed right side paralysis and a droopy eye. Aggressive therapy was begun and hyperbaric therapy was administered daily.

Paralysis was completely gone within the first week of therapy. Alex continued to improve and was back to school and very active eight months later.

Case IV: Taryn W. (age 12) Kidney cancer (Wilm's tumor) with metastasis to spine, liver and lungs: this patient was in much pain because of metastasis to her spine. Her condition was grave.

Her main wish was to recover enough to be able to travel to California to ride horses on the beach, a trip that was arranged by Make-A-Wish Foundation.

Daily hyperbaric therapy along with two cycle IPT, hyperthermia and nutritional therapy for two weeks had her nearly pain

free.

She went to California for her "Wish" and then returned to the clinic for the rest of her therapy. We were able to extend her life with good quality.

Hyperbaric therapy is part of our treatment for all cancers and many chronic and degenerative diseases and chronic infections, such as Lyme disease—immaterial to the age of the patient.

There is growing evidence which shows that hyperbaric therapy helps the delivery of therapeutic agents close to the site of the disease, and that hyperbaric oxygen is toxic to the cancer cells.

IHA Editor's Note:

For more information about these and other cancer therapies available, please contact Integrated Medical and Chemotherapy Specialists' Director T. R. Shantha, MD, at the numbers and websites on page 16.

IMPORTANT IHA REMINDERS...

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SUMMERTIME SAFETY: NEW ADVENTURES



Summer is a time when many children enjoy new places and new activities .

The following summer safety tips are from the American Academy of Pediatrics (AAP).

FUN IN THE SUN

Source: <http://www.aap.org/advocacy/archives/tanning.htm>
For Older Children:

- The first, and best, line of defense against the sun is covering up. Wear a hat with a three-inch brim or a bill facing forward, sunglasses (look for sunglasses that block 99-100% of ultraviolet rays), and cotton clothing with a tight weave.
- Stay in the shade whenever possible, and avoid sun exposure during the peak intensity hours - between 10 a.m. and 4 p.m.
- Use a sunscreen with an SPF (sun protection factor) of 15 or greater. Be sure to apply enough sunscreen - about one ounce per sitting for a young adult.

Reapply sunscreen every two hours, or after swimming or sweating.

For Young Children:

- Babies under 6 months of age should be kept out of the direct sunlight. Move your baby to the shade or under a tree, umbrella, or the stroller canopy.
- Dress babies in lightweight clothing that covers the arms and legs and use brimmed hats.

Apply sunscreen at least 30 minutes before going outside, and use sunscreen even on cloudy days. The SPF should be at least 15.

HEAT STRESS IN EXERCISING CHILDREN

Source: <http://www.aap.org/policy/re9845.html>



- The intensity of activities that last 15 minutes or more should be reduced whenever high heat and humidity reach critical levels. (See policy statement for details)
- At the beginning of a strenuous exercise program or after traveling to a warmer climate, the intensity and duration of exercise should be limited initially and then gradually increased during a period of 10 to 14 days to accomplish acclimatization to the heat.
- Before prolonged physical activity, the child should be well-hydrated. During the activity, periodic drinking should be enforced, e.g., each 20 minutes, 5 oz of cold tap water or

a flavored sports drink for a child weighing 88 lbs, and 9 oz for an adolescent weighing 132 lbs, even if the child does not feel thirsty. Clothing should be light-colored and lightweight and limited to one layer of absorbent material to facilitate evaporation of sweat. Sweat-saturated garments should be replaced by dry garments.

POOL SAFETY

Source: <http://www.aap.org/family/tippool.htm>

- Never leave children alone in or near the pool, even for a moment.
- Install a fence at least four-foot high around all four sides of the pool.
- Make sure pool gates self-close and self-latch at a height children can't reach.
- Keep rescue equipment (a shepherd's hook - a long pole with a hook on the end - and life preserver) and a portable telephone near the pool.
- Avoid inflatable swimming aids such as "floaties." They are not a substitute for approved life vests and can give children a false sense of security.
- Children are not developmentally ready for swim lessons until after their fourth birthday. *Swim programs for children under 4 should not be seen as a way to decrease the risk of drowning.* Whenever infants or toddlers are in or around water, an adult should be within arm's length, providing "touch supervision."



Most public pools feature gates beyond the leisure area of the pool.

BOAT SAFETY

Source: <http://www.aap.org/family/tippslip.htm>

- Your children should wear life jackets at all times when on boats or near bodies of water.
- Make sure the life jacket is the right size for your child. The jacket should not be loose. It should always be worn as instructed with all straps belted.
- *Blow-up water wings, toys, rafts, and air mattresses should never be used as life jackets or life preservers.* Adults should wear life jackets for their own protection and to set a good example.



BUG SAFETY

Source: <http://www.aap.org/pubserv/insect.htm>

- Don't use scented soaps, perfumes or hair sprays on your child.
- Avoid areas where insects nest or congregate, such as stagnant pools of water, uncovered foods and gardens where flowers are in bloom.
- Avoid dressing your child in clothing with bright colors or flowery prints.
- To remove a visible stinger from skin, gently scrape it off horizontally with a credit card or your fingernail.
- Insect repellents containing DEET are the most effective.
- The safety of DEET does not appear to relate to differences in con-



Continued from page 11
 Figures for Alzheimer's Study

Fig.1 Neuropsychological investigations

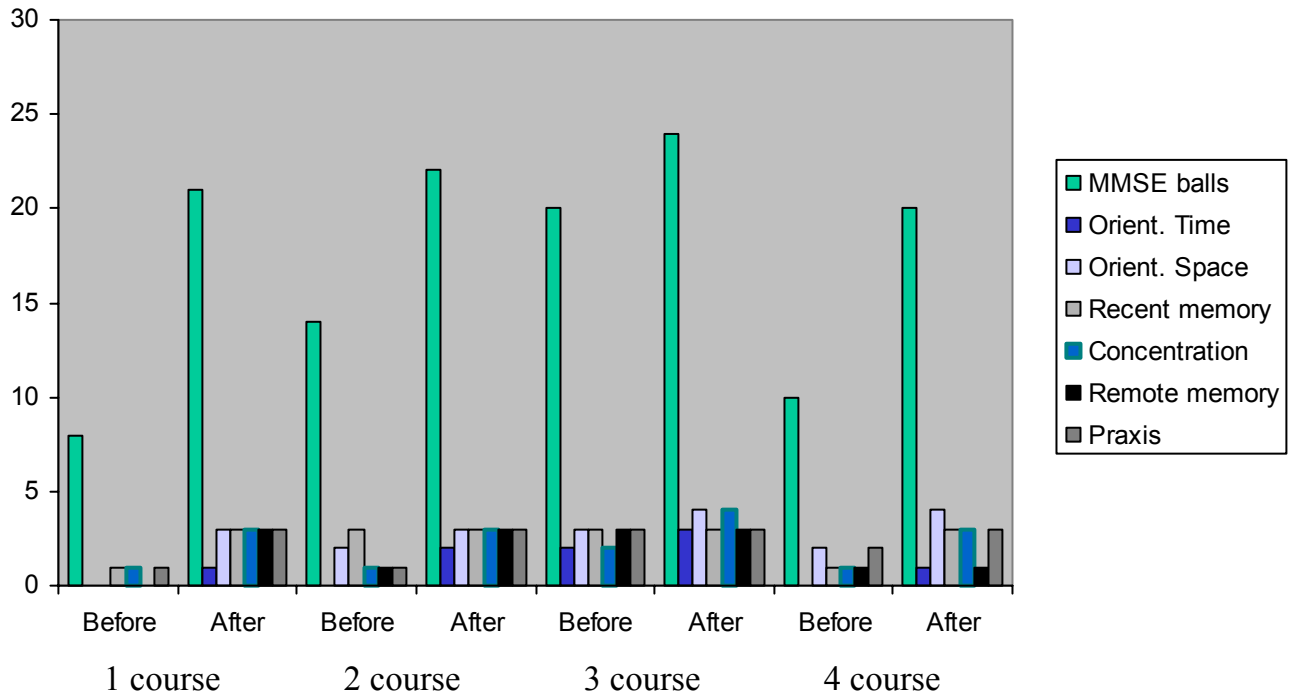
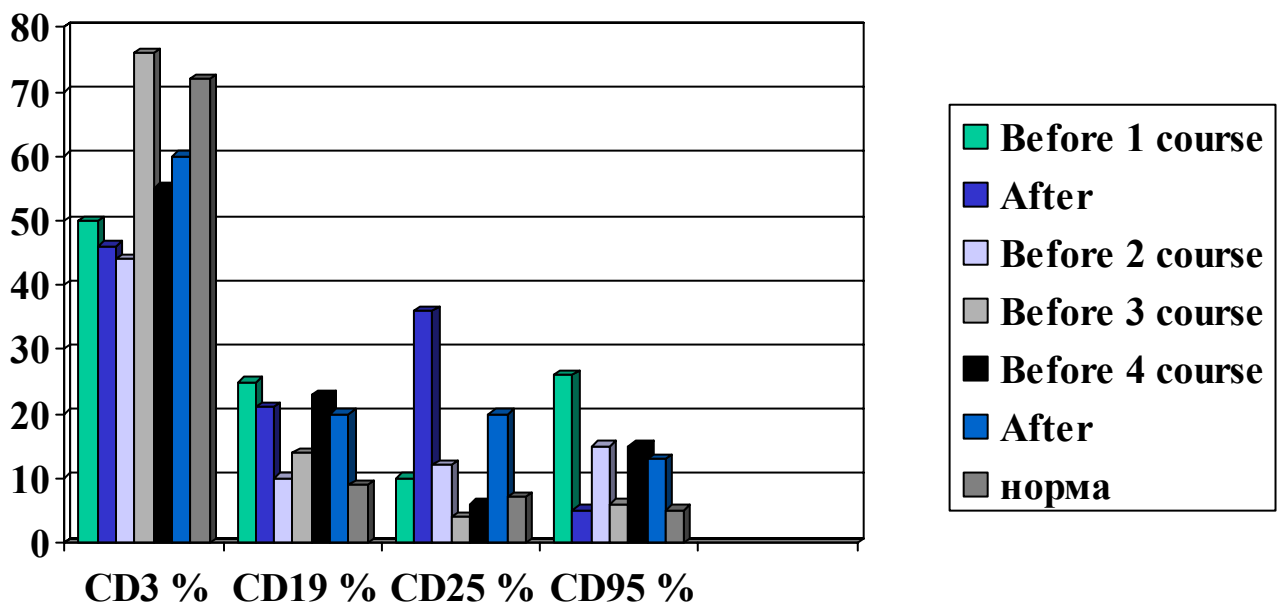


Fig.2 Immunological investigations



SUMMERTIME SAFETY (CONCLUSION)

(Continued from page 13)

centrations. A prudent approach would be to select the lowest concentration effective for the amount of time spend outdoors. It is generally agreed that DEET should not be applied more than once a day. The concentration of DEET varies significantly from product to product, so read the label of any product you purchase.

For more information on DEET:
<http://www.aapnews.org/cgi/content/full/e200399v1>

PLAYGROUND SAFETY

Source: <http://www.aap.org/advocacy/archives/maytra.htm>
 Source: <http://www.aap.org/family/playgrd.htm>

- Carefully maintain all equipment.



- Swings should be made of soft materials such as rubber, plastic or canvas.
- Make sure children cannot reach any moving parts that might pinch or trap any body part.
- Make sure metal slides are cool to prevent children's legs from getting burned.
- Parents should never purchase a home trampoline or allow children to use home trampolines.

BICYCLE SAFETY

Source: <http://www.aap.org/family/bicycle.htm>
 Source: <http://www.aap.org/family/tbikmyth.htm>

- Do not push your child to ride a 2-wheeled bike until he or she is ready, at about age 5 or 6. Consider the child's coordination and desire to learn to ride. Stick with coaster brakes until your child is older and more experienced.



- Take your child with you when you shop for the bike, so that he or she can try it out.

The value of a properly fitting bike far outweighs the value of surprising your child with a new bike.

- Buy a bike that is the right size, not one your child has to "grow into." Oversized bikes are especially dangerous.

SKATEBOARD AND SCOOTER SAFETY

Source: <http://www.aap.org/advocacy/archives/marskaite.htm>

- Children should never ride skateboards or scooters in or near traffic.
- All skateboarders and scooter-riders should wear a helmet and other protective gear.
- Communities should continue to develop skateboard parks, which are more likely to be monitored for safety than ramps and jumps constructed by children at home.



TRAVEL SAFETY

Source: Car Seat Safety
<http://www.aap.org/family/carseatguide.htm>
<http://www.aap.org/policy/re0116.html>

Source: Air Bag Safety
<http://www.aap.org/family/airbag.htm>

- Buckle up car seats and seat belts.
- When your child reaches the top weight allowed for his car safety seat or his ears have reached the top of his car safety seat, he needs a booster seat. Booster seats should be used until he can correctly use a lap/shoulder seat belt.
- Keep supplies with you, such as snacks, water, a first aid kit and any medicines your child takes.
- Always use a car seat, starting with your baby's first ride home from the hospital. Help your child form a lifelong habit of buckling up.
- Read the manufacturer's instructions and always keep them with the car seat. Read your vehicle owner's manual for more information on how to install the car seat.



- Put your child in the back seat. It is the safest place in the car because it is farthest away from a head-on crash (the most common type of crash).
- The harness system holds your child in the car seat and the seat belts hold the seat in the car. Attach both snugly to protect your child.
- Children in rear-facing car seats should never be placed in a front seat equipped with an air bag.
- Children traveling alone to visit relatives or attend summer camp should have a copy of their medical information with them at all times.



LAWN MOWER SAFETY

Source: <http://www.aap.org/family/tiplawn.htm>

- Try to use a mower with a control that stops the mower from moving forward if the handle is let go.
- Children younger than 16 years should not be allowed to use ride-on mowers. Children younger than 12 years should not use walk-behind mowers.

- Make sure that sturdy shoes (not sandals or sneakers) are worn while mowing.
- Prevent injuries from flying objects, such as stones or toys, by picking up objects from the lawn before mowing begins. Have anyone who uses a mower wear hearing and eye protection.
- Do not pull the mower backward or mow in reverse unless absolutely necessary, and carefully look for children behind you when you mow in reverse.
- Always turn off the mower and wait for the blades to stop completely before removing the grass catcher, unclogging the discharge chute, or crossing gravel paths, roads, or other areas.
- Do not allow children to ride as passengers on ride-on mowers.



—American Academy of Pediatrics, May, 2003

INTERNATIONAL HYPERBARICS ASSOCIATION



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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."

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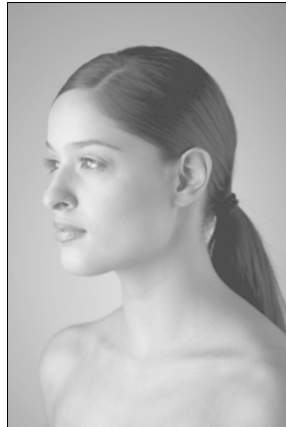
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