

CRYONICS

MAY / JUN 2005 A PUBLICATION OF THE ALCOR LIFE EXTENSION FOUNDATION Volume 26:3

PROTECTING YOURSELF IN MEDICAL EMERGENCIES

*Cryopreservation
Case Summary:
Patient A-2068*

*Interview with
Bill Voice*

*For the Record:
Last Early Hurrah:
The Cryonics Conference of 1971*



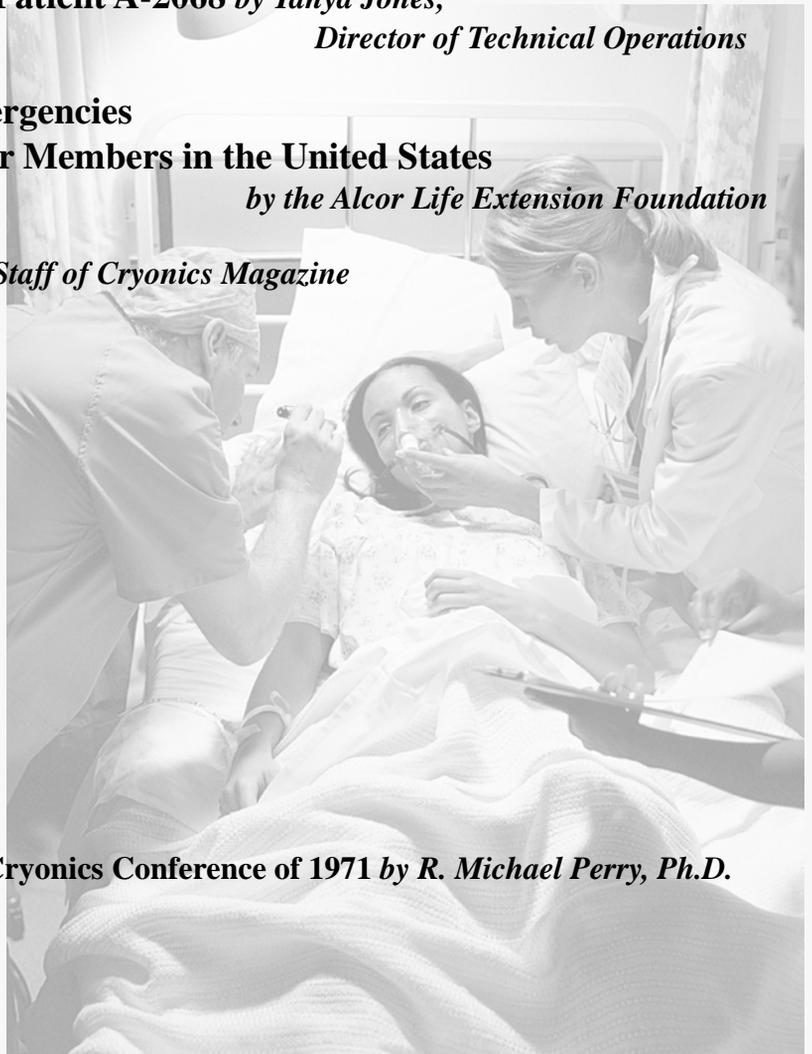
ISSN 1054-4305

\$7.50

Cryonics

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May/June 2005

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To Our Readers

Recent news events have emphasized that end-of-life care is an issue best addressed when you have the energy and clear-headedness to properly deal with it. The majority of *Cryonics* magazine readers are well-aware of the sensitive nature of the care provided prior to clinical death because of its potential impact upon the quality of the cryopreservation process. Cryonicists have a unique perspective on this issue, beyond that of personal and familial preferences. Alcor feels this is an opportune time to offer some helpful insight. For pointers on what you can do now to improve your chances of receiving optimal care, see our lead article about protecting yourself in the event of an emergency.

Understanding the care you will receive at Alcor and how we respond to emergencies is also a critical aspect of Alcor membership. For that reason we are introducing you to **Bill Voice**. He is the person in charge of cryopreservation cases and emergency response training at Alcor. In the last few months, he has climbed the learning curve and made a number of noteworthy contributions to improving patient care, by drawing upon his many years of experience as an EMT. Plenty of exciting challenges and accomplishments await him, so we invite you to get to know Bill in our staff profile.

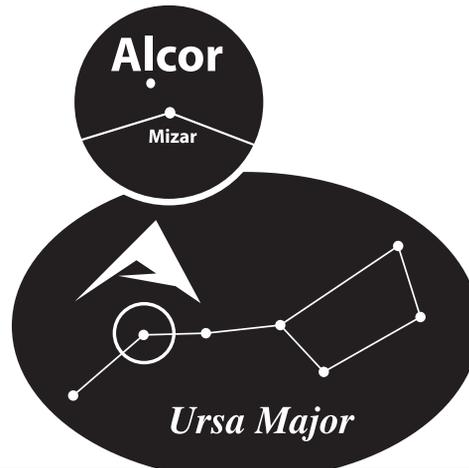
Want to see a topic discussed?
articles@alcor.org

Letters to the Editor

Letters or questions for the Editor are most welcome on all topics, including counterpoint on previously published materials and suggestions for future content. We especially invite questions about cryopreservation or reanimation that are original and far-reaching. Email your feedback to articles@alcor.org. If you are seeking information about Alcor, visit our website (www.alcor.org).

Alcor: Seen By Few

Did you know "Alcor" is a star? A star barely within the threshold of human vision, Alcor is located in the Big Dipper's handle. Only with excellent vision can one see Alcor, which is quite close to, but dimmer than, Mizar. The name Alcor, chosen for its symbolism and its historical use as a test for vision and focus, serves as a reminder that the distant dreams seen by few today may become the reality of tomorrow.



Cryonics

is a bi-monthly publication of the
Alcor Life Extension Foundation

Editor
The Alcor Staff

Volume 26:3

May/June 2005

ISSN 1054-4305

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Cryonics
Alcor Life Extension Foundation
7895 E. Acoma Dr., Suite 110
Scottsdale, AZ 85260

Visit us on the Web at www.alcor.org

HOW TO JOIN ALCOR

Your research is finally complete. You browsed our web site (www.alcor.org), presented your questions to our Membership Coordinator, and toured our facility. Now you are ready to establish your membership with the Alcor Foundation. Congratulations and welcome!

Upon receipt of your completed application for membership and \$150 application charge, Alcor will send you various membership documents (samples available upon request). After reviewing these documents, you will need to sign them in the presence of two signing witnesses. At least one document requires the services of a notary public. After returning all of your documents to Alcor for approval, you can expect to receive one original copy of each for your personal records.

Most people use life insurance to fund their cryopreservation, although cash prepayment is also acceptable. If you do not already have an insurance policy, Alcor recommends that you apply for one at your earliest convenience, as the underwriting process can last several weeks. Diane Cremeens, Membership Coordinator, can provide you with a list of insurance agents who have previously written policies for this purpose. These agents can assist you with satisfying Alcor's various funding requirements, such as naming Alcor as the owner and irrevocable beneficiary of your policy and ensuring that your benefit amount is sufficient.

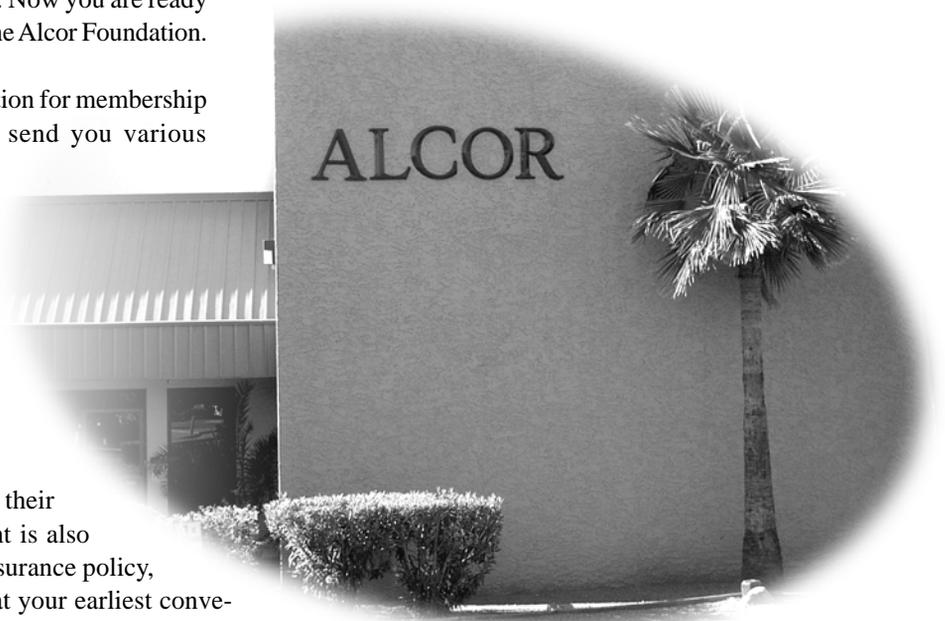
With your membership documents completed and your funding approved by Alcor, you will be issued emergency identification tags engraved with your personal Cryopreservation Number. This is your confirmation that Alcor will respond, should our emergency technicians ever receive a call on your behalf. Certainly, Alcor hopes that you will not need us anytime soon, but as a member you can feel confident that our organization will care for you and your future to the best of our ability. Please call 877-462-5267 ext. 132 today to request your application.

Attention All Members and Applicants

Please! Please! Please! When you move, change phone numbers (work number as well), change e-mail addresses, or plan to undergo any medical procedure where general anesthesia is used, please inform us as far ahead of time as you can.

Too many times we have tried to contact our members and found out the contact information we have is no longer valid. Other times we find out well after the fact that a member has undergone a medical procedure with life threatening potential.

Help us to serve you better! Keep in touch!



Alcor Membership Status

Alcor has 730 Cryopreservation Members (including 111 Life Members) and 67 cryopreservation patients. These numbers are broken down by country below.

Country	Membership Status		
	Members	Applicants	Subscribers
Argentina	0	0	1
Australia	8	1	3
Austria	0	0	1
Canada	22	9	11
France	0	0	1
Germany	3	1	2
Italy	1	2	3
Japan	0	0	1
Lebanon	0	0	1
Mexico	2	0	1
Monaco	2	0	0
Netherlands	1	4	1
Russia	0	0	2
South Africa	0	0	1
Spain	0	4	0
Sweden	0	0	1
Switzerland	0	0	2
Taiwan	0	0	1
U.K.	16	9	9
U.S.A.	675	76	484
TOTALS	730	106	526



An Interview With

John De Goes

Alcor Member

John A. De Goes is a computer scientist who holds a position in research and development at Synopsys, Inc., where he works on software designed to streamline the production of next-generation silicon chips. He currently lives in Winston-Salem, North Carolina. Those interested in contacting him may do so by email: john@degoes.net

CM: *Tell us about your first exposure to the topic of cryonics.*

JDG: It was probably the movie *Alien*. This movie introduced me to the idea of suspended animation through low temperatures (even if it wasn't portrayed in a realistic fashion). Later, I heard about cryonics through a Christian pastor, who was very hostile to the idea (so much so that he etched the subject into my mind permanently!). My own investigations into cryonics and Alcor were launched years later, in my early college years.

CM: *When did you join Alcor and what motivated you to become a member?*

JDG: I joined Alcor about 6 months ago. I've wanted to join (and have followed the developments in cryonics) for about 6 years, but I only recently became financially able to afford the cryopreservation arrangements I wanted.

CM: *How does your membership impact your life plans or lifestyle?*

JDG: I was a life extensionist before I became a cryonicist, so my membership hasn't really affected my risk-avoidance tendencies or healthy lifestyle behaviors. However, I do wear an Alcor-engraved dog tag around my neck (the only piece of "jewelry" I own) and have tentative plans to retire near my cryonics provider (assuming it still hasn't broken into mainstream by then, in which case I would expect most major cities to have cryopreservation facilities). I also have decided not to live outside the United States, after hearing the attitude towards cryonics in some other countries (e.g. France) and contemplating the odds of a good cryopreservation after 2-4 days postmortem (i.e. zero).

CM: *What do you consider the most challenging aspect(s) of cryonics?*

JDG: Cryonics is selling a product that doesn't work (not today, and not until the development of true suspended animation or

techniques are able to reverse the damage inherent in today's procedures). In fact, it isn't even near working, in the sense that we haven't even vitrified and revived a small mammal such as a mouse. It's hard to market such a product to the public (heck, it's hard to market it to my friends who know me as a thoughtful, intelligent individual—let alone to complete strangers). This is why I think current cryonics organizations draw disproportionately from the people with the most to gain from cryonics: non-religious people with an especially strong desire for more life, the elderly, and so on. In order to broaden our appeal, we need to demonstrate proof-of-concept: reversible vitrification in a mammal. Until that occurs, cryonics will continue being a hard sell, even to those who truly wish it were valid.

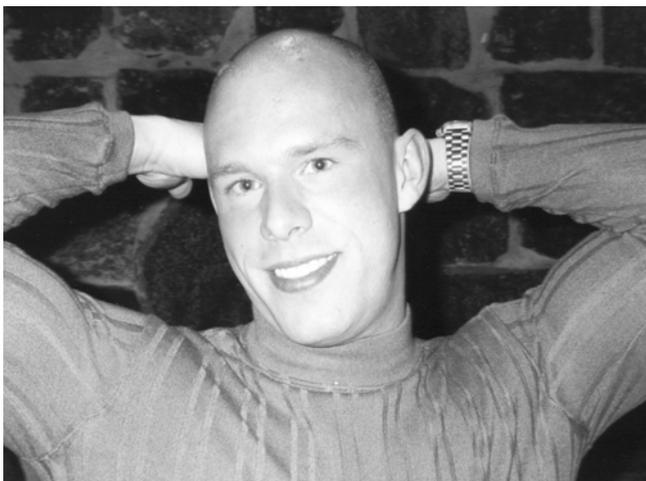
CM: *Have you met a lot of other Alcor members?*

JDG: Only one in person, but I have conversed with many through online discussion groups and spoken with another one on the phone.

CM: *What areas of Alcor's program would you like to see developed over the next 5-10 years?*

JDG: First and foremost, research and development! I understand that outside companies are likely to make more progress toward the development of better cryoprotectants than a single researcher working for Alcor, but there are lots of areas where an Alcor researcher could break new ground (e.g. annealing to reduce or prevent fracturing, magnetic resonance freezing, application of Alcor procedures to animal brains to determine efficacy of protocols, etc.). Second, I would like to see the membership application process streamlined. For example, Alcor could partner with a life insurance company (or provide this service itself), and for one low monthly fee, offer cryonic suspension services for certain fixed terms (5 year, 10 year, etc.). The membership signup process could be put on the web, so interested parties could signup in minutes by filling out a few forms and entering their credit card information. All they would have to do by hand is sign the Anatomical Gift Act and validate their health status. This would greatly increase the number of signups and do much to push cryonics towards the mainstream.

CM: *What kind of lasting contribution would you like to make to cryonics?*



JDG: At a minimum, I would like to increase the number of cryonicists through outspoken advocacy. Beyond that, my contributions depend on the directions my career takes in the future.

CM: *What could Alcor do that would benefit you as a member?*

JDG: Enable me to update all my information online. Also, Alcor should locate or develop and promote a 24/7 heart monitoring device that calls Alcor emergency numbers in the event of either heart failure or imminent signs of heart failure. This would reduce the number of cases where Alcor finds a member who has been dead for hours, days, or weeks. Other than that, the most important ways of benefiting me are through increases in membership numbers and funding of research and development operations.

CM: *What do your friends and family members think about your cryopreservation arrangements?*

JDG: They have mixed feelings. One is very supportive, another thinks it is cool (obviously he is a lifelong fan of science fiction!), and others have neutral or hostile feelings.

CM: *What are your hobbies or special interests?*

JDG: I enjoy bodybuilding, learning about science, researching new ideas in computer science, watching good movies, swing and lindy hop dancing, and playing computer adventure games. These are the hobbies that occupy most of my time, but of course there are others!

CM: *What would you like to say to other members reading this interview?*

JDG: Please, do not bash religion! Too many cryonicists have overtly hostile attitudes toward religion, which is another one of the reasons cryonics hasn't entered mainstream. Cryonics, in my view, should be promoted not as a way to escape death (every cryonicist will die sooner or later), nor as an alternative to an

afterlife (on which grounds it cannot compete), but as a way to experience some part of the future of this world. If the future of this world interests you—be it colonies on Mars or your great grandchildren—then you might want to give cryonics a look, regardless of your religious beliefs. Also, do not become complacent! Vitrification is a landmark development in the history of cryonics, but it's still a long way from suspended animation. We won't know if cryonics works until it does work. So think about increasing your financial support for Alcor and other cryonics organizations. ▲

MEMBER NOTES

New Grandfathering Policy

Members can no longer alternate back and forth from one method of suspension to another while only owing the rates that were in effect when their memberships were originally approved. Instead, members will owe the rate in effect at the time the new procedure is elected. Subsequent changes back to the original procedure will be considered election of a new procedure and current rates will apply.

Lifetime CMS

Any U.S. or Canadian member who wants to payoff Standby arrangements can do so with one of these options:

Lump Sum Payment: \$4,000
Three Annual Payments: \$1,500 each for a total of \$4,500
Sixty Monthly Payments: \$100 per month for a total of \$6,000

This is a tremendous savings compared to the out-of-pocket expenses members previously faced, which ranged from \$10,000 to \$40,000. CMS payments are non-refundable.

CMS: Ready and Waiting

We received a call just after midnight on March 21st indicating that one of our members had suffered an acute stroke and was admitted to the hospital for testing. We had been aware that the member was suffering from cancer and all treatment had been stopped. Following assessment of the patient's condition by Bill Voice, a standby was launched. Within a few days, the member recovered from the immediate cause for concern and the standby was cancelled. This was the first use of CMS and Alcor's response was conducted at no cost to the member.

(continued on page 26)



CEO Report

By Joseph A. Waynick

As a cryonicist, I am very much aware of the responsibility that comes with trying to support a fledging industry, especially one in which experimental science is the central activity. As the President of Alcor, the awesome weight of that responsibility is magnified many times since so many have placed their hopes and dreams in our ability to move the research forward and hopefully restore the health of the cryonics pioneers.

Unfortunately, no single organization or person can ever achieve such a lofty goal. Only the collective resources, ideas, wisdom, and tireless efforts of the membership as a whole will get us to the future. We are all limited as individuals, but together we can move mountains. And we all share the responsibility of ensuring the success and well-being of the organization.

Cryonics research does not have the benefit of large government grants, or private foundations to fund our operations, or of a large fundraising machine to raise the millions of dollars necessary to develop much needed technology and protocol enhancements. What our industry has, though, are loyal, dedicated members like you who have a personal interest in the success of the field.

In this issue of *Cryonics*, I am writing to invite you – and other cryonicists around the world – to join a select group of individuals who are committing themselves to ensuring that cryonics research receives the funding it needs to guarantee the long-term success of our mission: The Preservation of Individual Lives.

As Alcor begins its 34th year of operations, we have set a goal of enlisting 200 dedicated members willing to pledge \$500 or \$1,000 per year for the next five years to the Alcor Endowment Fund “Leadership Team”. We have chosen that number because our goal is to raise one million dollars over the next five years to perpetually fund ongoing projects, upgrades, and staff that will steadily advance the technological and membership growth objectives of the organization. Your pledge will have a tremendous impact on our ability to reach that goal.

It will only take 200 dedicated individuals to make a vast difference, and I would like for you to join me and Alcor’s Board of Directors in this effort to secure our collective futures. In appreciation of your pledge, you will receive special recognition as a leader among Alcor’s membership. In just a minute, I will tell you about several other benefits of becoming a member of the Leadership Team, but first, let me tell you what your membership support means to your future.

Membership in Alcor represents many things to many people. Above all else, Alcor is a community of visionaries who all dream

of experiencing the joy, the promise, and pursuit of a greatly extended and healthy life. Every day, our community pursues that goal through academic study of the sciences, philosophical, theological and ethical discussions with peers and associates, participation in emergency standby training classes, furthering our collective education in medicine, and volunteering our time in myriad other ways.

That has been our proud mission for 34 years – ever since Alcor was first founded in 1972.

Today, the Alcor Life Extension Foundation is the most respected cryonics organization in the world. Our membership spans over two dozen nations across the globe. We regularly train emergency Standby and Transport personnel in a half dozen regions throughout the United States, and we are currently expanding our rescue capability in Canada and Europe.

Alcor is regularly featured in mainstream media reports as the world is becoming increasingly captivated by the boldness of our goals. Scientists and academicians the world over are beginning to take notice of the increasing body of scientific evidence that supports cryonics.

Where cryonics and cryonicists were

once almost universally relegated to the role of a “fringe” group or organization, we now see political and social recognition as a legitimate end-of-life choice that has as much legitimacy as the traditional choices available to society.

The attainment of life extension is a goal that has been pursued by humankind since recorded history. Alcor’s mission is unique in that we may shape how society ultimately views the very nature of life and death itself. I see Alcor’s role as one of helping society recognize alternatives where none existed before.

Alcor’s public outreach programs enrich and enthrall the community like never before. Our twice weekly public tours are becoming increasingly popular. Requests for our information packets are steadily rising as a curious public seeks more information about the science of cryonics.

In addition, we just completed a new DVD documentary that showcases, in ways never done before, the advances in cryonics research. It is a high quality product that is professionally produced and designed to educate and enlighten the public in a positive and supportive manner. We intend to provide this documentary to our



**“And the fact is
we are simply out of space in
the existing Patient Care Bay.”**

members to be used as an educational tool to help their friends and family learn and understand more about why they made the decision to become involved with cryonics. We need your support to make this valuable resource available to the membership. And if you pledge, we have a special version just for you that includes additional features not found on the standard DVD that will be shown on national television and made available to the general public. It's our way of saying, "Thanks for your support."

Over the past 34 years, Alcor has conducted or funded some of the most groundbreaking research ever done. For example, we conducted dog research in the 1980's and 1990's and recently made a \$20,000 grant to the publication of *Nanomedicine, Volume III*, by Robert A. Freitas, Jr., which is a groundbreaking book exploring the full range of molecular nanotechnology applications inside the human body. We need your support to not only continue this work but to expand upon it.

In 2005 our major project initiatives currently under development include completing the facility expansion, customizing the new Transport Vehicle, upgrading our temperature logging capability by replacing our DualLogR devices, building a new operating room, and to begin procuring laboratory equipment for our new scientist.

To give you an example of just how important these projects are, the operating room will give us the flexibility to perform two cryopreservations at once should two members need us simultaneously. Another example is the fact that we are simply out of space in the existing Patient Care Bay. In addition, we are moving ahead with whole body vitrification as well as pushing our membership numbers to 800 plus by year-end. All of these projects are vital to the future survivability of all Alcor members.



"Expanding the operating room will give us much needed flexibility in performing up to two cryopreservations at once."

Alcor has a long, proud tradition of innovation and technical excellence in the field of cryonics. I assure you, this will continue to be our overriding mission in the years ahead. Yet, the organization is only as great as its people, starting with its supporters. Membership dues and cryopreservation cases cover just 60% of our annual budget. The remainder must come from generous individuals within our small community.

Establishing the Alcor Endowment Fund allows us to improve the future, TODAY. The purpose of the fund is to provide a reliable source of revenue from investment income that is used to support ongoing projects and research activities, particularly those pertaining to patient care and field operations which benefit all members of Alcor. Your contribution to the fund will help ensure our long-term success. It is an investment in your own future.

Currently, we have a very special group of Friends – people like you – who help support the Foundation with a tax-deductible contribution each year.

That is why I hope you will accept my invitation to join Alcor's Leadership Team today – and help fortify one of the oldest

and most respected cryonics organizations in the world. Your generous gift will always be appreciated and can be made in one annual payment, four quarterly payments, or twelve monthly payments during your five-year pledge. An automatic debit to your credit card makes keeping your pledge EASY and SAFE.

As an Alcor Leader, you become part of a select, recognized group who has made the commitment to ensure the long-term success of the organization. As a result, you will receive all these Leadership Benefits:

- Quarterly executive briefs sent only to the Alcor Leadership Team that offer up-to-the-minute status reports on our major initiatives, a sneak peek at our progress, and how your contributions are making a difference.
- Free admittance to the next Alcor Conference – a \$495.00 value!
- Recognition in our bi-monthly *Cryonics* magazine and *Alcor News*, our monthly electronic newsletter, as an Alcor Leadership Team participant (unless confidentiality is preferred).
- A free copy of our new 30-minute DVD, "The Limitless Future" that includes special features not available to anyone else such as an exclusive 10-minute short film, a brand new media B-roll of the facility, and a thirty-second commercial – a \$29.95 value!

Perhaps the greatest benefit you will receive, though, is knowing that you are helping to create a more secure Alcor that will be there for your future, as well as the future of your friends and family who also belong to our small community of cryonicists.

So please, right now while this article is in front of you, take a minute to fill out the pledge form on the next page and send it back to Alcor by postal mail or fax. You can also make a credit card donation TODAY by calling us at (877)462-5267 ext. 101.

With many thanks and wishes for good health and long life.

Sincerely,
Alcor Life Extension Foundation

Joe Waynick
CEO/President

P.S. To reserve your free DVD package, we must receive your pledge by July 31st. Otherwise, supplies may not last and you will miss out on receiving this exclusive version of the DVD. Thank you very much!



“LEADERSHIP TEAM” PLEDGE FORM

As Alcor begins its 34th year of operations, we have set a goal of enlisting 200 dedicated members willing to pledge \$500 or \$1,000 per year for the next five years to the Alcor Endowment Fund “Leadership Team” project. Your gift will help establish a permanent fund that will advance the scientific and growth targets of Alcor for a better future for all members. Join the Leadership Team by pledging TODAY!

Your generous, tax-deductible gift can be made using one of these convenient Plans. Just check the pledge amount and billing preference you wish to use.

AMOUNT

\$500 Pledge

- One annual payment of \$500
- Four quarterly payments of \$125
- Twelve monthly payments of \$42*

\$1,000 Pledge

- One annual payment of \$1,000
- Four quarterly payments of \$250
- Twelve monthly payments of \$84*

BILLING PREFERENCE

Choose One

- Use my membership credit card**
- Send me a statement via eMail
- Send me a statement via Postal Mail

Use This Credit Card

Donor Name _____

Card No. _____

Expiration Date _____

* Monthly pledges must be made using an automatic credit card payment

**Your membership credit card is the card Alcor has on file to pay your membership dues. You can use a different card by entering its information under “Use This Credit Card”.

Name: _____

Address: _____

City/State/Zip: _____

Phone: _____ eMail: _____

Signature: _____ Date: _____

Please make out personal checks to the **Alcor Endowment Fund** and mail with this form to:
Alcor Foundation/*Cryonics Magazine*
7895 E. Acoma Drive, Suite 110
Scottsdale, AZ 85260

You can also fax your pledge form with your credit card information to: (480) 922-9027.

Make a lasting contribution to your future. Donate to Alcor.

WHO KNOWS ABOUT ALCOR NEWS?

Did you know that for over two years Alcor has been issuing regular news bulletins via its **FREE** electronic Newsletter? *Alcor News* gives its readers an inside look at the monthly happenings at the Alcor Foundation.

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Simply visit www.alcornews.org and enter your email address. Shortly thereafter, you will be asked to reply to an email confirming your subscription. Once a month you will start receiving regular Alcor updates in your Inbox!

WANT TO SEE WHAT YOU'VE BEEN MISSING?

Go to the Alcor Newsletter page on Alcor's website (www.alcor.org) for all back issues.



REGULAR TECHNICAL UPDATES...

Our building plans were submitted to the City of Scottsdale. We still anticipate applying for a demolition permit and having our first redline comments from the city by March 21st. No construction work can start until the demolition permit is granted. The planned completion date for the project is still June 30th.

- Excerpt from March 15, 2005, Alcor News

The prototype for Neuro-Vitrification with Whole-Body Cryoprotection has been completed and the components tested. Deployment of the entire system is dependent upon the introduction of the new cryoprotectant, M22. We should be able to switch to this system quickly.

- Excerpt from March 15, 2005, Alcor News

UPDATES ON ADMINISTRATIVE MATTERS...

"As of January 1, 2005, U.S. and Canadian members are no longer required to fund emergency-based standby coverage via credit card authorization or prepayment (does not include elective standby). Instead, each member contributes \$10 per month to a pooled Standby Fund that will cover standby costs for any member in a near-death situation."

- Excerpt from February 9, 2005, Alcor News

There have been over 135,000 field updates in the central database. This effort has already alerted us to several interesting membership recruiting patterns. We are now focusing on updating financial and medical information for members.

- Excerpt from April 8, 2005, Alcor News



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Want to talk about cryonics with your friends and family? Start them off by giving them a gift subscription to *Cryonics* magazine. Just record the subscriber information below, and send it with a check for \$35 to:

Alcor Foundation/Cryonics Magazine • 7895 E. Acoma Drive, Suite 110 • Scottsdale, AZ 85260

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Cryopreservation Case Summary:

The Cryopreservation of Patient A-2068

by Tanya Jones, Director of Technical Operations

We were contacted initially by the patient's son on the morning of May 13, 2004, when an application for membership was faxed to our office. The applicant was an 82-year-old woman in the hospital, suffering from transient ischemic attacks, renal failure, and septicemia, and not expected to survive long. Her son, who is a friend of at least one Alcor member and familiar with our procedures, submitted an application for whole body cryopreservation on her behalf. Next of kin consisted of two sons, both of whom were supportive of the cryopreservation efforts. Funding was provided in the form of prepayment for both the procedure and the associated standby. A consent form was provided, as signed by the patient, indicating her personal desire to be cryopreserved; and a full set of legal documentation was executed by the next of kin in under 24 hours.

State of Readiness

When this call came in, we were not entirely prepared for another case in Florida. The Regional Coordinator was still missing a couple of transport components that had not been replenished after the completion of the previous case. We were fortunate in that we had personnel in the area, as Joe Waynick and Todd Huffman were in Florida visiting the lab at Suspended Animation, Inc. (SAI). When negotiations began in this case, they were provided with access to an office, telephone and fax to facilitate preparations.

As the legal aspects of the cryopreservation resolved and it looked likely we would accept the case, the staff of SAI graciously offered their assistance in the standby and stabilization, when it became necessary. We accepted and also activated a few of our local medical professionals to fill out the team. The standby was launched on the afternoon of May 13, 2004.

Deployment Description

Joe Waynick and Todd Huffman were the first team members on site. SAI personnel arrived late that evening. A team member went in to assess the patient and found her on a ventilator with labored breathing. Her vital signs were weak but within normal ranges for patients in similar condition. Capillary refill was slow in some extremities and non-existent in others. Edema and clotting were noticed in her fingers and toes.

One unusual complication in this case is that we had three small teams coming together to work for the first time.

Differences in protocols and training levels were evident, and communication was sometimes difficult. Exhaustion also became a factor during deployment.

In preparation for post-pronouncement needs, several members of the team mapped the exit route from the room by walking the hospital corridors to determine the shortest path from the building. The team was worried that if the patient's heart stopped during the small hours of the night, then many of the doors would be locked, and the team would need security personnel to open them. As a result, the chosen path would lead them through the main hospital lobby. At about this same time, medications and perfusion equipment were moved from a personal vehicle to SAI's ambulance; however, the equipment was not set up and the medications were not drawn due to the uncertainty of the time of eventual pronouncement.

Because we had been in the area recently for another patient, we had a funeral home that we hoped to work with again. When one of the SAI personnel attempted to drop off the perfusion equipment late that night, he was informed that he could not visit the mortuary at that time and that they did not want to be contacted until the patient had been pronounced. This lack of regard for the patient was unacceptable from a preparedness standpoint, and the team contacted another mortuary for assistance.

The next morning, the team was a little short-handed. One of the standby participants had to leave early for a doctor's appointment. Under normal circumstances, this would not be a problem, as that member was replaced with another transport team member; but in this case, the administrative overhead involved in a last-minute situation caused a problem. Another team member had left the hospital early to find a Kinko's, so that the final contracts could be faxed to Alcor. He took another of the team members with him to navigate, leaving only two at the hospital. Furthermore, a trip that shouldn't have taken very long lasted instead for a couple of hours due to complications in transmitting documents to Alcor central. While those two were away dealing with the paperwork, the remaining team members visited with the patient and her son.

A basic assessment was performed; and her vital signs were slightly improved, the edema was reduced, and clotting signs had receded from her fingertips. Despite the encouraging signs, it was only a couple hours later that a nurse informed our team that the patient was experiencing asystole (cardiac arrest). Unfortunately, the standby team was still at two people, and few of the advance preparations had been completed.

Pronouncement

When the team members arrived in the hospital room, they noticed small fibrillations on the heart monitor, and the nursing staff standing around the patient. While one team member ran down to the ambulance for the portable ice bath, the other spoke with the head nurse, asking that the patient's room be cleared of unnecessary equipment as quickly as possible. Offsite team members were also contacted and told to return immediately to the hospital. Pronouncement occurred shortly thereafter, at 11:22 am, while the team members were gathering their equipment.

Stabilization

Some time during the night, the SAI ambulance had been blocked in by another vehicle. The lift gate could not be lowered for equipment access, and the vehicle had to be moved before the ice bath could be removed. Furthermore, there were so many boxes in the back of the vehicle that some equipment had to be removed and then returned to the vehicle after the ice bath was extracted, and then the vehicle was re-parked before the team could return to the patient's side. This lack of preparedness caused a delay of at least 20 minutes in the start of the stabilization.

By the time they reached the patient, they discovered that none of the extraneous equipment had been removed from the room, the hospital staff was still standing around, and the patient was still connected to the ventilator. Typically, removal of the ventilator is a step that hospital personnel prefer to perform themselves, and they should certainly be encouraged to do so. One of the team members ultimately removed the ventilator tube.

Hospital staff did assist the two team members with transferring the patient from the bed to the portable ice bath, and so surface cooling was initiated while still in the hospital. Water was added to the ice bath so that a circulating device could be used to speed cooling. A mechanical cardiopulmonary support device ("Thumper") was also placed at this time. As they were

leaving the patient's room, one of the team members noticed the Thumper's ventilator hose was missing. They stopped and went to look for it. Splitting up the team at this point slowed progress slightly, as one nurse quickly found and placed a ventilator hose, but the second team member was not aware of this and had another nurse working with him to find one.

Finally, the team was on its way out the door. They stayed with the original plan, to exit through the main hospital lobby, despite the misgivings of the nursing supervisor. Unfortunately, those misgivings proved a reflection of reality when the ice bath snagged on a carpet in the doorway and caused a scene in the lobby.

As the patient was reaching the ambulance, the other team members returned from their Kinko's quest, and Todd Soard and his people arrived. They assisted with positioning the vehicle for loading, shuffling the transport kit cases out of the way, and raising the ice bath into the back. As the patient was being loaded, the Thumper struck the roof of the vehicle and pulled half off of the sidebar mounts of the PIB and began compressing the chest at an angle. This impact also shifted the patient.

Administration of the medication protocol did not begin until the patient was in the back of the ambulance. The meds had not been prepared in advance, so two of the team members perched in the back and were forced to both draw and administer during transit. Ultimately, all but one medication was given prior to the patient reaching the funeral home after a 45-minute drive.

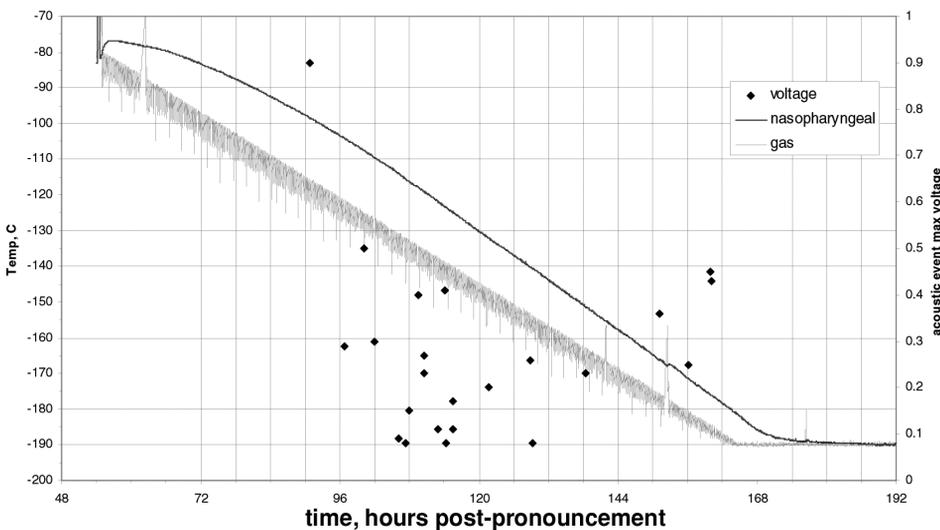
Shortly before the patient reached the funeral home, another issue arose. The Thumper, which had been damaged during the loading process, had been held in place by one of the team members. This was a poor initial solution, because of the pressure of the compressions and the unsafe manner in which one of the team members had to travel, so cloth was substituted as a tie-down to fair success. Shortly after this was remedied, the Thumper began to run out of oxygen, which powers the compressions and supplies ventilation.

When the Thumper began to slow, the driver pulled to the left side of the road so that the oxygen tank could be switched to a full one. This involved a team member exiting the vehicle and climbing over a highway divider to reach the controls. A successful, if risky, maneuver was completed, which allowed the patient to reach the funeral home with no significant lapse in cardiopulmonary support.

Washout

When the team reached the funeral home, they found the preparation room was not ready. While waiting for the room to be cleared, the patient was removed from the ambulance to the mortuary garage, where she sat for 20 minutes with no cardiopulmonary support until the room was available.

A-2068 Acoustic Events



Everyone lent a hand in preparing the tubing pack, and it was discovered that the flow meter was damaged and had to be removed. The circuit was eventually set, but the DuaLogR could not be found, so no temperature data was collected during this stage. Because there was no ice on hand at the mortuary at this point, the washout was carried out at higher temperatures than normal. The heat exchange portion of the perfusion system was also not used. Furthermore, team members were splashed with perfusate during the priming of the circuit, because some connectors near the patient (for temperature data collection) lacked proper caps.

The funeral director began the surgery to raise the femorals for cannulation, and he discovered that the patient suffered from extensive sclerosis.

The femoral arteries were then bypassed in favor of the carotid artery. Shortly thereafter, the washout was started. Following the start of the washout, the funeral director managed to clear the femoral vein enough to allow perfusion.

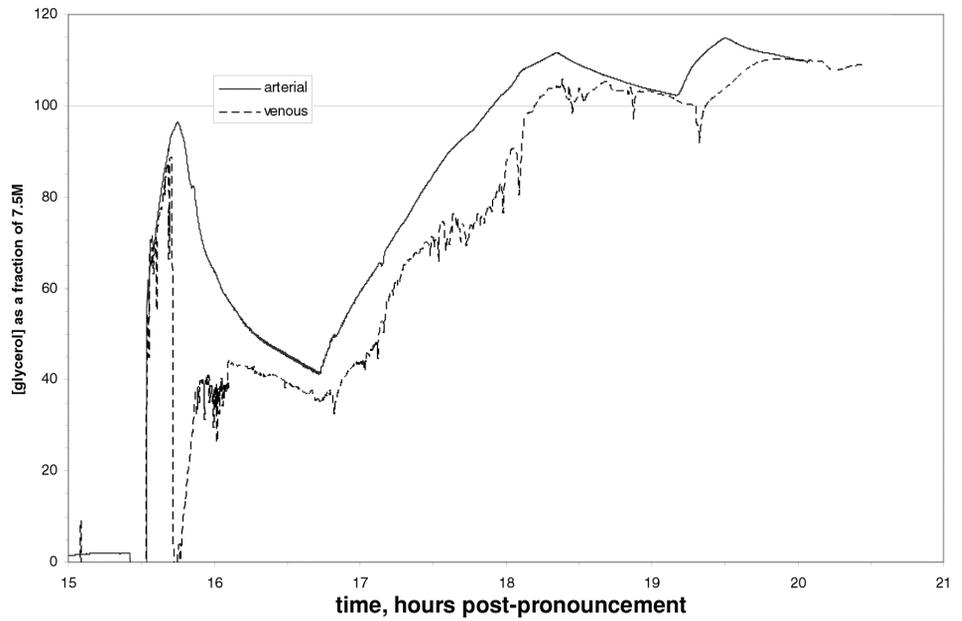
Perfusion continued for an hour; and the patient showed signs of good circulation, losing color and becoming cooler. Even her earlobes showed signs of washout solution distribution. Some volume was lost to the leaking caps, but more volume was ultimately lost in the patient, as she apparently was suffering from internal bleeding.

Airline arrangements were made using a charter aircraft, because conventional airline schedules required an extensive delay to change planes. Once the arrangements were made, the patient was prepared for shipment. Upon loading the patient in the SAI ambulance, the team found the electric shut-off switch had been left in the “on” position; and the vehicle’s battery was dead. Twenty minutes and one jump later, the vehicle was ready and the team headed to the airport.

Cryoprotection

The patient landed at the Scottsdale Airport at 22:10 and was picked up by our local funeral director. One of our volunteers picked up the staff and equipment that accompanied the patient. By 22:25, the patient was being moved to the operating table, packed in ice and prepped for surgery.

As a whole body patient, we used open heart surgery to access the circulatory system, and our glycerol-based cryoprotectant was used. The operating room and surgeons were ready when the patient arrived, and surgery moved quickly. By 22:35, the heart was exposed for cannulation, and the surgeons noticed pulmonary adhesion and a large amount of plaque in the aorta. In an attempt to avoid doing excessive damage to the fragile heart, the decision was made to insert the cannula just above the aorta. The patient’s temperature at this time was 11.35°C.

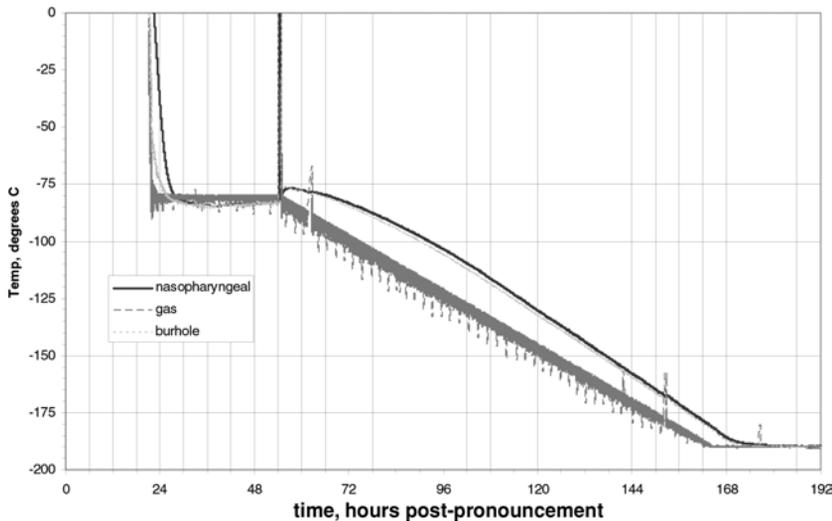


Surgery was slowed because of the plaque in the vessels and because the standard-sized cannula were too large for this patient. Smaller ones were obtained and used. Cryoprotective perfusion began at 23:32, and then the surgeons turned to the preparation of the burr holes. During the craniotomy, the perforator broke. Fortunately, this did not cause any damage to the brain, as we discovered the dura intact after removing the bad bit. The bit was replaced, and the burr holes were completed.

At 23:47, we encountered problems with the perfusion. We were pumping solutions into the patient, but too little of it was returning through the venous system. The venous cannula was backed out of position and replaced with a slightly smaller cannula. Unfortunately, this was not the source of our leak. We also did not see any signs of the patient bloating or otherwise filling with fluid. At 00:07, we switched to cryoprotection because of the loss in washout volume, still without a clear understanding of where the volume was going. It was an additional five minutes before we located the source: an unusual surgical site used during the field washout. No one in the operating room had been informed by the transport team that a carotid incision had been made in the field, and the patient had been covered in ice so the surgical team did not notice. Typically, femoral vessels are used exclusively during stabilization, and the surgical team saw that both of those had been accessed during the field operations. Furthermore, the carotid incision had not been closed properly and was the source of a large volume of fluid leaking to the operating room table. By the time everything was finally secured and the perfusion circuit properly closed, we had lost nearly 14 liters of washout solution and cryoprotectant.

Despite the problems, we began seeing signs of glycerol penetration in the tissues by 00:40. A few moments later, we noticed a new and different leak underneath the aorta. We continued perfusion, using a cardiomy suction unit to recover the fluid. Over time, the lungs began to swell, as they also

A-2068 cooldown



accumulated excess fluid; but observation of the brain indicated retraction, so the edema was limited in scope.

At 04:58, cryoprotection was halted, with the target cryoprotection having been achieved. The chest was successfully closed, though with some difficulty due to the swelling of the lungs. All sensors and plumbing were secured, and the patient was transferred to the cool down area for the next phase.

Cooling

Temperature probes were placed in the nasopharyngeal cavity and in both burr holes; we also monitored gas and ambient temperatures directly. Because this was a whole body glycerol perfusion, first-stage cool down was a plunge to -80°C and was started at 05:47. We deployed a whole body vapor cooling system built by Hugh Hixon some time ago. It worked, but it used a lot of liquid nitrogen. Despite the nitrogen consumption, this was a much cleaner and less hazardous method for cooling patients than the previous silicone oil system, which possessed significant slip risk for the staff involved.

Second stage cooling was carried out at the rate of $1^{\circ}\text{C}/\text{hour}$ from -80°C to -200°C , beginning at 15:26 on May 15th. The vapor cooling system performed as intended, but the overall cool down was marred by the lack of a working dewar scale, which tells us when it is time to swap out the cylinders. As a result, the cylinder ran dry twice during second-stage cooling. In the first incident, the gas temperature raised 20°C , but the patient's temperature (at -77.9°C) was unaffected. The same held true in the second incident, where the ambient temperature raised 21°C , but the patient (at -167.8°C) was similarly unaffected.

During the cooling process for this patient, we also placed several bottles of effluent perfusate in the bottom of the chamber. It was a crude attempt to see if the cryoprotectant would vitrify or freeze. The effluent did vitrify and not freeze.

Twenty-three fracture events were recorded, with the first occurring at -98.5°C and the last at -176°C .

Conclusion

Some things went well in this last-minute case, like the support of the family and the alacrity with which the legal documents were signed and the funding secured. The transport personnel submitted the most detailed transport report we have seen, and the introduction of the vapor cooling system for whole body patients went well. This case still suffered from many logistical problems, starting with Florida being under-stocked with transport supplies, the attempts to merge three separate groups into an effective transport team on the spur of the moment, a lack of experienced field personnel, poor communication on the part of transport personnel, and the lack of a functional scale during the cooling. (The scale has since been repaired and as our vigorous training program continues, we anticipate

a number of the other issues will also improve.)

Despite all the problems, the patient achieved target cryoprotection and experienced a normal amount of acoustic events during the course of the cool down. We appreciate the willingness of Suspended Animation, Inc. to assist us with this last-minute case and their generous commitment of time, personnel and equipment. 

A-2068: PATIENT PROFILE

- 82-year old female
- Died of old age
- Residing in Florida
- Last minute case with sympathetic next of kin

A-2068 Acoustic Events		
time, hours	Temp, C	max V
90.811	-98.5	0.9
96.733	-106.1	0.29
100.17	-107.6	0.5
101.956	-109.6	0.3
106.112	-114	0.09
107.429	-115.5	0.08
107.998	-116.3	0.15
109.521	-117.8	0.4
110.488	-118.9	0.27
110.488	-118.9	0.23
112.846	-121.7	0.11
114.171	-123.4	0.41
114.25	-123.7	0.08
115.576	-124.9	0.17
115.576	-124.9	0.11
121.782	-132.1	0.2
128.918	-140.3	0.26
129.302	-140.7	0.08
138.354	-151.3	0.23
151.269	-166.3	0.36
156.227	-171.7	0.25
159.928	-175.9	0.45
160.076	-176	0.43
# events = 23	-98.5 to -176	sum = 6.35

Protecting Yourself in Medical Emergencies

Legal Options for Alcor Members in the United States



Published by Alcor Life Extension Foundation, Scottsdale, Arizona

This article discusses a few of the ways an Alcor member can deal with the medical and legal system to increase his or her chances for a good cryopreservation. Laws vary from state to state and county to county. Although, we believe the information that follows is generally correct, it should not be taken as legal advice. You should contact a local attorney for definitive legal guidance.

The two most controversial obstacles facing cryonicists are how to avoid an autopsy and what heroic measures (if any) should be made to sustain him or her artificially without endangering the quality of the member's cryopreservation. In the final analysis, preparedness is the key by not placing yourself in avoidable situations that would trigger an autopsy and by having a reliable medical surrogate who will make decisions that are supportive of your desire for cryopreservation.

Avoiding Autopsy

An autopsy is a postmortem surgical procedure in which the patient is dissected to establish the cause of death. This may be important for medical or legal purposes, but it is one of the worst things that can happen to someone who hopes to be cryopreserved. After legal death has been pronounced, a patient usually waits for hours or even days before the autopsy is performed. During this waiting period the condition of the brain will deteriorate, and the damage may be irreversible. Worse still, when the autopsy finally takes place, the brain is typically removed from the patient.

According to the American Medical Association, twenty percent of all deaths in the United States are autopsied every year.

"... you may lapse into a coma... you may be unable to move or speak. In these situations, you will not be able to tell anyone what you want..."

How do you know if you will be one of them? A key factor is whether you die unexpectedly.

An unexpected death is liable to be classified as "unnatural."

Unnatural deaths include homicide, suicide, and all forms of accidents. They often result in a forensic autopsy for legal reasons. For instance, if a person seems to have died as a result of drugs or poison, police have an obvious need to find out what happened. In a car accident, if one driver dies while people in another vehicle are injured, the injured parties may want to know whether the deceased driver was under the influence of alcohol or drugs, for insurance purposes. An autopsy is the way to find out.

Sometimes it may be hard to tell whether someone died naturally. If an elderly man with a past history of heart attacks is found lying in bed, lifeless, with no suicide note and no sign that

anyone was with him, he probably died of natural causes - yet the police may still want an autopsy to make sure. If the same patient died from a heart attack in a hospital after being assessed by a physician, the situation would be totally different. Almost everyone who dies in a hospital is safe from autopsy. A pathologist may still ask to investigate any uncertainty about the cause of death, but next-of-kin may be able to refuse this request if death occurred while the patient was under medical supervision.

Even if you die outside of a hospital, you may escape being autopsied if your relatives or your cryonics organization object strenuously to the procedure or if a coroner has no special interest in your case or is simply too busy to deal with it. Countless random factors make it impossible to predict the outcome. However, we can suggest some steps that can help minimize your risk. The first of these steps is to learn more about your local coroner or medical examiner.

Coroners and Medical Examiners

The role of a coroner originated in England around 1200 AD as an official who determined the cause of death. No special training was required, and even now, 800 years later, in many locations in the United States the title does not require any formal qualifications. In an effort to modernize the system, New York City created medical examiners in 1914 and required that they must be physicians who were pathologists, trained to do autopsies. Today, many American cities have medical examiners, while many rural counties still use coroners. To discover the situation in your area, you will have to check with your county government.

Medical examiners may have state, district, or county jurisdiction; usually are appointed; must be licensed physicians; and are generally forensic-trained pathologists. Coroners may have district or county jurisdiction; usually are elected; and do not have to be physicians.

What really matters from a cryonicist's point of view is that coroners and medical examiners both have a lot of power and can perform forensic autopsies regardless of objections from individuals. Also, if someone objects to an autopsy, the patient will have to wait while the objection is heard by a judge, which can take days.

Your chances of avoiding autopsy are slightly better in California, New Jersey, Rhode Island, New York, Maryland, and Ohio, where legislation requires officials to respect an individual's religious preferences. Here is an extract from a relevant statute:

New York Public Health Law §4210-c (1):

"Notwithstanding any other provision of law, in the ab-

sense of a compelling public necessity, no dissection or autopsy shall be performed over the religious objection of a surviving relative or friend of the deceased that such procedure is contrary to the religious belief of a surviving relative or friend of the deceased that such procedure is contrary to the religious beliefs of the decedent, or, if there is otherwise reason to believe that a dissection or autopsy is contrary to the decedent's religious beliefs.”

You may wish to sign our Certificate of Religious Belief, which is found on our website at www.alcor.org/Library/index.html#signup and can help reduce the risk of autopsy. Some states also discourage coroners or medical examiners from doing anything that would interfere with an anatomical donation.

While you are still alive and healthy, contact a local mortician and ask about the standard practices regarding autopsy in your county. If the mortician tells you that your local medical examiner or coroner often respects personal preferences, you can make contact with his or her office and explain why you are opposed to any procedure which will cause postmortem brain damage.

Alcor always makes every effort to prevent an autopsy, but if we are not present at your time of death, your relatives should know that you are opposed to being autopsied. Most of all, you should appoint a medical surrogate who can speak on your behalf.

Your Medical Surrogate

If you are near death, you may lapse into a coma. If you suffer a stroke, you may be unable to move or speak. In these situations, you will not be able to tell anyone what you want and you will not be able to prevent decisions that may interfere with your desire to be cryopreserved after legal death.

To help assure that your wishes will be carried out, you should fill out two advance directives: A Living Will and a Durable Power of Attorney for Health Care. Specific formats for these may vary from state to state, but all states provide for them.

A Living Will provides you with an opportunity to express your wishes on end-of-life issues such as withdrawal of life support. The primary statutory purpose of a Living Will, however, is to protect health care providers from liability if they carry out your wishes, particularly in such matters as withdrawal of life support. This is an important advantage in encouraging the health care providers to carry out your wishes. In some states it may not be possible to spell out your desire to be cryopreserved in a Living Will. Sometimes it might be appropriate to have your Living Will simply refer to your Durable Power of Attorney for Health Care for the details of your wishes. This also helps assure that the wording in both documents will be in complete agreement.

In a Durable Power of Attorney for Health Care, which is by far the more powerful of the two documents, you give someone you trust the power to make medical decisions for you in the event that you are incapacitated and unable to make such decisions yourself. This person is your medical surrogate, also known as a health care agent. The surrogate can make health care decisions

with the same authority as if you made them yourself, including decisions regarding withdrawal of life support. Therefore you should be extremely careful about your choice. You should also consider naming a secondary surrogate in case your first choice is unavailable.

We offer these suggestions in choosing a medical surrogate:

- You may want to consider someone younger than you and in good health, to maximize the chance that he or she will outlive you.
- If you wish to be cryopreserved after death, your surrogate should be fully informed about cryonics and very sympathetic toward your wishes.
- Choose someone who is smart, highly motivated, and has good social skills. You do not want your surrogate to alienate or antagonize medical personnel.
- Although it is common to choose a spouse or close family member as your surrogate, you may choose any other person as well. If you do not choose a family member, that person should not be a beneficiary in your will who might benefit, or appear to benefit, from your death especially if your cryopreservation is not possible.
- Your surrogate cannot be an officer or employee of your cryonics organization (but may be a member of your cryonics organization).

Note that if you do not choose a medical surrogate, your closest next of kin will have that power by default. Even if you trust this family member to exercise medical judgment wisely, you should still give that person explicit power of attorney.

In a Durable Power of Attorney for Health Care, you can instruct your medical surrogate about your wishes regarding end-of-life care, including your wishes regarding cryopreservation. Your surrogate is legally obligated to carry out your instructions. You can specify, for example, that no medical procedures be performed which would jeopardize your cryopreservation, that your death should not be artificially extended by any means which would tend to cause deterioration of your brain, that life support should be continued until an Alcor team can reach you, or that you should be transported to a place near Alcor.

It is also a good idea to instruct your surrogate to disallow autopsy. Although in many states this may not have any binding effect after your legal death, in such cases it certainly does no harm to provide a record of your wishes.

CALIFORNIA CERTIFICATE OF RELIGIOUS BELIEF

Pursuant to Section 27491.43 of the Government Code of the State of California, I hereby execute this Certificate of Religious Belief:

Any autopsy of my body is a violation of my religious beliefs. Any procedure which allows the post-mortem deterioration of my body is a violation of my religious beliefs. Further, it is my wish and directive that my remains be placed into cryonic suspension as soon possible following my death.

Dated: _____
Signed: _____
Printed Name: _____

Witnessed:
Dated: _____
Signed: _____
Printed Name: _____
Address: _____

Witnessed:
Dated: _____
Signed: _____
Printed Name: _____
Address: _____

Hospitals always provide minimal Living Will and Durable Power of Attorney for Health Care forms upon admission. If you already have these documents, especially if they carefully express your desires regarding cryopreservation, you should not sign any of these hospital forms. Signing the hospital versions would automatically supercede and void your previous documents, since it is the most recently signed documents that take precedence. On the other hand, if you have no advance directives at the time, then it is probably a good idea to use the hospital forms to appoint a medical surrogate and express your wishes regarding end-of-life care.

The exact requirements for advance directives vary from state to state. Generic state-specific documents can be obtained for free from the web site of the National Hospice and Palliative Care Organization:

<http://www.nhpco.org/i4a/pages/index.cfm?pageid=4415>

To be certain your document is valid in your state, you may wish to consult with an attorney. To contact an attorney who specializes in this work in your area, telephone your state Bar Association (listed in your local white pages) and ask for a reference. Many attorneys who participate in the Bar Association referral service will provide an initial half-hour consultation free of charge or for a small fee.

After you have executed your advance directives, please make sure you send a copy to us at Alcor. This is absolutely essential, so that we know who has your power of attorney in an emergency. Also, it is a good idea to review your advance directives regularly to make sure that they still express your wishes accurately.

The best way of assuring that your wishes will be honored is to find a sympathetic doctor who has agreed to honor your wishes in advance. At the very least, make sure your doctor has copies of your advance directives, and that your hospital is given copies on admission.

To Resuscitate, or Not to Resuscitate

When the heart stops beating and the patient stops breathing, legal death may be pronounced. However, in practice, depending on the case, doctors, paramedics, and other health care personnel may try to resuscitate the patient.

Typically, if someone is suffering from a terminal condition from which recovery is impossible, or if the patient has been enduring extreme pain or severely reduced quality of life, a hospital may put a "DNR" order in place, which means "Do Not Resuscitate." Your health surrogate may be able to override this order, but this is a complicated decision. On one hand, cryonicists hope that medical staff will not prolong life unnecessarily if this will increase the risk of brain damage. Very often, a patient who is near death may have low oxygen saturation, which could injure brain cells if it continues for a long period. On the other hand, your cryonics organization will want to be nearby to take immediate action after legal death is pronounced. If Alcor has not had time to deploy a team, or if you are in a remote area, you may

want medical staff to prolong your life until the team arrives.

Recognizing this dilemma, you could consider putting a statement in your advance directives such as, "If I am in a vegetative state, I wish life support to continue, but only until the Alcor standby team is on-site and has stated that it is ready. If I experience cardiac arrest after the Alcor standby team is ready, I do not wish to be resuscitated."

Your "Right to Die"

Some European nations allow patients or their physicians to end life if its quality has diminished to a low level or if there is no chance of recovery from a terminal illness. Currently this remains a controversial issue in the United States, but even if some states acknowledge a "right to die," you should realize that any case of assisted suicide is almost certain to result in an autopsy regardless of whether the action is legal.

The only sure way to hasten your death without substantial risk of an autopsy is to refuse food and fluids under medical supervision. This is not a pleasant or easy thing to do, and severe dehydration raises some risk of brain injury. We do not recommend it, and we never advise anyone to end life prematurely.

Expect the Unexpected

We have seen many cases where patients thought they had made careful plans, but circumstances conspired against them. Very often, the prospect of imminent death may be so stressful to family or close friends, they feel a deep instinctive need to do what they personally feel is right instead of what you asked them to do. People under stress are likely to prefer "conventional" ways of coping with death, such as a religious service followed by burial or cremation.

Also, we have seen money become an issue. Relatives who genuinely care for a patient can also become unexpectedly concerned about financial issues. We have seen relatives ask for treatment to be curtailed if the cost of the treatment will diminish the patient's estate and the inheritance which the relatives may receive. We have also seen relatives exert emotional pressure on a patient to change financial arrangements a few weeks or even a few days before death. Even if you are certain that this cannot happen to you, we suggest you should take precautions to insure that your wishes are respected under any circumstances.

Sometimes a cryonics patient becomes his or her own worst enemy. We have seen an instance where a patient with a long history of interest in cryonics became suicidal and took his own life, and another case where a patient refused to believe he was

"What really matters from a cryonicist's point of view is that coroners and medical examiners both have a lot of power and can perform forensic autopsies regardless of objections from individuals."

dying, almost until the end, and would not talk to cryonics personnel because he felt they were “unnecessary.” We are powerless to prevent such situations. All we can do is urge you to give durable power of attorney for healthcare to a person who cares deeply about your welfare and is absolutely determined that you should receive the best possible cryopreservation, if this is what you really want.

Confer with your Family

In an effort to avoid unpleasant surprises, we urge you to talk to your family about cryonics. Please do not postpone this. If you are worried that your family may be upset by your decision to be cryopreserved, think how they may react if they do not know about it until they encounter the cryonics team at a hospital where you are suffering a terminal illness. It is always better to raise the topic of cryonics while there is time for your family to get used to the idea.

We suggest that you simply explain what you want, without being confrontational or trying to convert people to your point of view. If you nag your relatives too much, they may pretend to go along with the idea of cryonics just to stop you from talking about it. Your objective is simply to establish your wishes, and find out how people respond.

If any of your relatives dislike or disapprove of cryonics, please notify us so that we can include a memo in your file. If your relatives seem willing to accept your decision to be cryopreserved, please ask them to sign a Relative's Affidavit, which you can find on our website at <http://www.alcor.org/Library/index.html#signup>. This document confirms that your relatives will not interfere with your cryopreservation and is a very effective way to protect you.

You should also raise the topic of cryonics with your primary care physician. Most doctors will honor a patient's wishes, but you should be sure about this.

Record Your Preferences

If you have made a will, please be sure that it does not contain any statements that conflict with your desire for cryopreservation. If you do not have a will, please consider making one. Ideally your will should include a section explaining and affirming your outlook on cryonics and your desire for cryopreservation after legal death.

Another important step is to make a short video in which you describe your desire for cryopreservation calmly, rationally, and firmly. If there is any dispute in the future, a video is the best possible evidence that you made a fully informed decision.

Your statement should be factual and brief. Do not digress into speculation about the power of science to repair brain damage or the possibilities for rejuvenation if you are resuscitated in the future. Just say what you want, and make it clear that this is a deep, lasting desire, not just a transient whim.

If possible, make the video with at least two people watching you. They may serve as witnesses at a later date.

You should answer the following questions in your video. You

may want someone to actually ask these questions while you are on-camera, or you can write cue cards to remind you of the questions. Either way, every answer should be a complete sentence making a complete statement. For instance, when you answer the first question listed below, do not just recite the date. Say: “I am making this video on . . .” and then state the date. In response to the second question, do not just say your age. Say: “I am [so many] years old.”

Here are the questions:

- What is today's date?
- How old are you?
- Where are you making the video?
- What are the names, addresses, and social security numbers of any people watching you make the video? (Witnesses can be extremely valuable, and although social security numbers were never intended be used for identification, it can be a very powerful tool for locating people many years in the future.)
- Are you speaking of your own free will?
- Are your statements on the video your own words expressing your personal feelings?
- Are you currently in good health?
- Are you thinking clearly and rationally, without impairment from any medical condition or drugs?
- Has anyone pressured you, paid you, or tempted you to make this video?
- When did you first hear about cryonics? When did you become an Alcor member?
- Do you wish to be cryopreserved after legal death?
- Do you want your cryonics organization to take every possible step to minimize brain damage after death?
- What are your feelings about autopsy?
- Do you have a rational reason for your interest in cryonics? If so, what is it?
- Do you have any brief instructions for relatives, close friends, or others?

Alcor should receive a copy of this video for storage with your membership documents. Another copy should be given to the person who has your durable power of attorney for health care. If you cannot make a copy of the video, we suggest that you make two separate videos, as similar to each other as possible. You should also make a new video at least every five years to reaffirm your preferences and prevent anyone from suggesting that your video was obsolete because you changed your mind after you made it.

Will It Work?

All aspects of cryonics entail some risk. At Alcor, we work as hard as we can to minimize the risk of brain damage while you are in our care. It is up to you to minimize the risks prior to your legal death. These are the steps you should take:

1. Execute a Durable Power of Attorney for Health Care to appoint a medical surrogate and provide instructions to the surrogate regarding your cryopreservation and end-of-life care.
2. Execute a Living Will and include your preferences regarding autopsy.
3. Sign our Certificate of Religious Belief, if it represents your outlook accurately.
4. Confer with your relatives and your doctor.
5. Make a video.
6. If you believe your local coroner or medical examiner may be receptive to the idea of cryonics, contact their office as soon as possible.
7. Finally, ensure that no one who is in a position to interfere with your cryopreservation arrangements stands to gain financially if your cryopreservation is not possible.

Only you can take these steps. If you seriously want to maximize your chances of future resuscitation, please do not hesitate or procrastinate. We urge you to immediately take the steps outlined above in consultation with your legal, medical, and personal representatives to increase your chances of receiving an optimal cryopreservation.

Also see the following tips for additional ways to maximize your membership. There are plenty of steps you can take both on your own and in conjunction with Alcor personnel. Let us know if we can offer any assistance.

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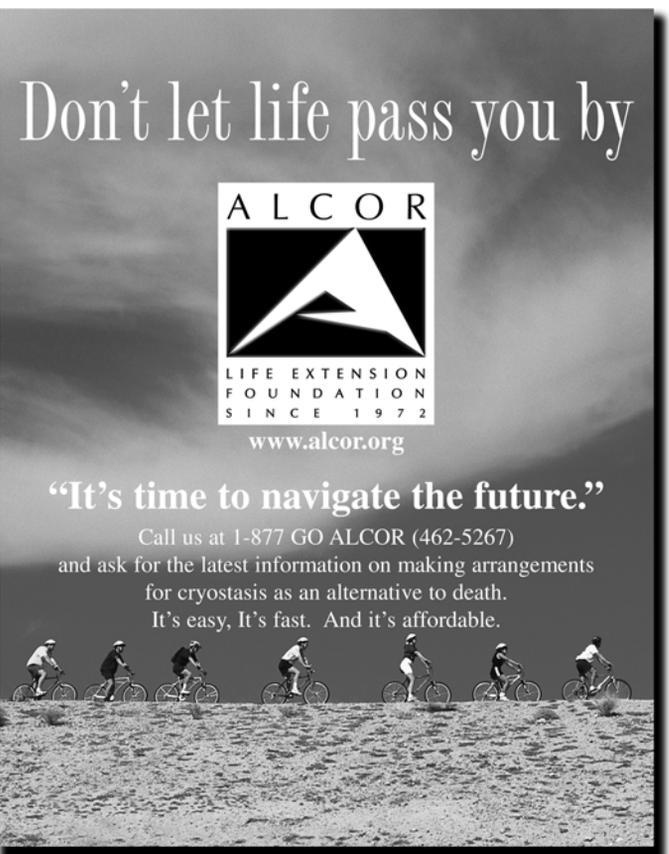
Office of the Medical Examiner, Rockland County, New York:

American College of Pathologists: <http://www.cap.org/>

American Medical Association, general autopsy information:
<http://www.ama-assn.org/ama/pub/category/7635.html> 

Other Ways to Maximize Your Membership

- 1) Wear your Alcor medical alert bracelet and/or necktag at all times.
- 2) Keep Alcor updated on your current physical address and phone number(s).
- 3) Notify Alcor if you have serious health difficulties, if you undergo a major medical treatment, or if you plan on having such treatment.
- 4) Notify Alcor if you are leaving the country for an extended period.
- 5) Pay attention to the cryonics community -- read *Cryonics Magazine* and *Alcor News* regularly (www.alcornews.org).
- 6) Make certain that your Alcor member file has as much current data as possible (eg. attorney's name and contact information; estate executor's name and contact information; marital status; photographic portrait, etc.).
- 7) Make certain that you have executed the latest version of Alcor's contracts.
- 8) If possible, try to improve the method you use for funding your cryonic suspension (eg. if you have Term Life Insurance, obtain While Life; if you have sufficient liquid assets, consider a Trust Fund or Prepayment to Alcor).
- 9) Form a local cryonics group.
- 10) Encourage your family and friends to make cryonics arrangements with Alcor.



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Alzheimer's Seen in the Living Brain. A mouse study raises hopes for early diagnosis of Alzheimer's disease in human patients. Spotting it before symptoms start would allow treatment to begin years earlier than is currently possible. Currently, doctors can diagnose the disease only after patients develop traits such as forgetfulness and confusion. But 10 to 20 years before these symptoms appear, toxic clumps of protein called amyloid plaques form in the brain. Researchers have characterized these tiny plaques in brain tissue after death, but they have struggled to capture images of them in living patients. Now Takaomi Saïdo and colleagues at the RIKEN Brain Science Institute in Wako City, Japan, have developed a way to view these plaques in the brains of live mice using MRI, a magnetic imaging technique widely available in hospitals. (*news@nature.com* 3/14/05) <http://www.nature.com/news/2005/050314/full/050314-2.html>.

Decoding the Babel of Brain Cells. Development of the brain involves a babel of messages that must speak to the formation and integration of hundreds of different types of nerve cells. If such messages could be separated from the "noise" of other brain activity and clearly understood, researchers would be closer to repairing damage caused by a number of nervous system diseases, paralyzing injuries, and combat wounds. Researchers at Harvard Medical School and Massachusetts General Hospital in Boston have actually done this with mice. They managed to isolate distinct types of nerve cells, and then identify the genes and molecules responsible for their development. This feat sets the stage for using nervous system stem cells to repair nerve cells damaged by spinal cord injuries or affected by diseases such as amyotrophic lateral sclerosis (ALS, or Lou Gehrig's disease). For example, some of the genes and molecules might be manipulated to enhance the survival of damaged motor cells in the brain, or to coax stem cells into replacing nonfunctioning nerve cells. (*Science Daily* 3/27/05) <http://www.sciencedaily.com/releases/2005/03/050323133845.htm>.

Wireless Device Monitors Patients. Nordic telecommunications operator TeliaSonera AB (Sweden) is launching a new product that lets doctors monitor their patients through a wireless device. The new system, called BodyKom, connects wirelessly to sensors on the patient. If dangerous changes are detected in the patient's body the hospital or health care services are automatically alerted over a secure mobile network connection. The unit receiving the alarm will also be informed of the geographic position of the patient through the use of GPS technology. TeliaSonera is launching the service together with Hewlett Packard Co. and Swedish technology company Kiwok. (*globeandmail.com* 3/30/05) <http://www.globetechnology.com/servlet/story/RTGAM.20050330>.

Benefits of Exercise in the Elderly. A new study shows how regular exercise helps protect muscles from soreness and injury. In aging racehorses, regular aerobic workouts decreased the prevalence of muscle damage that can be caused by exertion. Mammalian skeletal muscle tissue is the same regardless of which species of mammal it is in, said Steven Devor, the study's lead author and an assistant professor of exercise science education at Ohio State University. He and his colleagues studied the effects of aerobic exercise—in this case, galloping on a treadmill—on small sections of skeletal muscle tissue taken from the limbs of retired racehorses. The findings support a "use-it-or-lose-it" philosophy: After 10 weeks of regular workouts, the horses' muscles showed fewer signs of damage caused by exertion, even after the horses worked out at their maximum capacity. The results apply to humans and are especially important for older adults, Devor said. (*Science Daily* 3/25/05) <http://www.sciencedaily.com/directory/Health/Aging>.

Gene Therapy Cures Inherited Liver Disease in Rats. A single dose of a gene-virus combination cured rats of Crigler-Najjar syndrome, an inherited liver disease in which lack of a gene causes the accumulation of bilirubin. This, if untreated, results in jaundice and brain damage, said researchers at Baylor College of Medicine in a report in the Proceedings of the National Academy of Sciences. "This is the first time this disease has been completely cured long term with a single injection in an adult animal," said Dr. Brendan Lee, associate professor of molecular and human genetics and a Howard Hughes Medical Investigator at Baylor College of Medicine. Crigler-Najjar syndrome in humans is currently treated by placing the patient under special UV lights. It is an unwieldy and time-consuming treatment. (*Science Daily* 3/15/05) <http://www.sciencedaily.com/releases/2005/03/050310104201.htm>.

New Study Gets at Heart of Stroke Risk. It appears that a blood pressure-lowering regimen that includes drugs known as calcium antagonists is comparable to traditional therapy with beta-blockers and diuretics when it comes to warding off stroke in patients with heart disease, University of Florida researchers reported March 8 at the annual scientific sessions of the American College of Cardiology. "We determined that the type of drugs involved did not affect who would go on to have a stroke," said Rhonda Cooper-DeHoff, a research assistant professor at UF's College of Medicine. "The bottom line is it's not as important what you use to treat the high blood pressure as it is to get the blood pressure down." (*Science Daily* 3/15/05) <http://www.sciencedaily.com/releases/2005/03/050310175916.htm>.



An Interview With

Bill Voice

Transport Coordinator

Bill Voice is the newest member of the staff at Alcor Central. He comes to us with nearly 15 years of field work as an Emergency Medical Technician. Bill's primary role at Alcor is to act as the Transport Coordinator, participating in Standby and Transport operations when Alcor is notified of a medical emergency with one of our members, and to train Alcor CryoTransport Team personnel around the country.

We cornered Bill and asked him a few questions so our readers could get to know the newest member of the team a little bit better. Here is what he told us.

CM: *Bill, thank you for agreeing to this interview for the readers of Cryonics magazine. Let's start by having you tell us about your background.*

BV: I was born and raised in Michigan and have been working in emergency medical services since 1986. I have been a paramedic for nearly 20 years and a firefighter for more than 10. I moved to Arizona in August 2002 to continue my education and now hold a bachelor's degree in Applied Science from Sienna Heights University. I have been an EMS instructor since 1993 and have taught emergency medical protocols to the general public and all levels of emergency medical services at both high school and college levels.

CM: *Bill, as one of the newest members of the team, how did you, as a non-cryonicist, become interested in Alcor?*

BV: I actually learned about the organization back in the fall of 2002, shortly after I moved here from Michigan. I had seen an advertisement for a paramedic position on Monster.com and applied. At that time, I was interviewed but was not selected for the position. I would occasionally look at Monster.com to see what was out there while going to school. Then back in September or October, I had seen the advertisement again and dropped off my resume. The part that was, and still is, appealing to me is the science and new frontier aspect of our work.

CM: *What was the interview process like for you?*

BV: The interview process was interesting. I met with Joe and Tanya, who made me feel comfortable in the situation. I do remember joking about Futurerama, the cartoon, and comparing it to Alcor. We met twice, and then Tanya came to one of my teaching classes at one of the local colleges to evaluate my teaching skills and delivery style. As a bonus, the students I had at the

time were great, really wanting and willing to learn. This makes teaching a great pleasure.

CM: *What were you thinking when it was over?*

BV: I was not sure if I had the position or not. I knew I gave it my best, and if I was the one that would be great. I figured there were several trying for the position.

CM: *When did you actually start with us?*

BV: January 3, 2005, and what a great way to start off the New Year.

CM: *Now that you're officially on board, is the reality of working at Alcor at all what you expected?*

BV: I was not quite sure what to expect. I have an open mind and want to learn and experience new things. I knew this would be a new challenge and was looking for something like this. Alcor Foundation gives me a chance to use my brain in new ways and take on new challenges.

CM: *How do your education, training, and experience add to Alcor's ability to provide superior patient care when performing a Standby and Transport?*

BV: My major education and training has been in the emergency medical services as a paramedic since 1986 and fire service for 10 years. What many lay people think is a dire emergency is just business for emergency medical personnel and fire fighters. We are trained in the way we must perform during emergencies. Granted, not every call goes by the book or even close, but we adapt to the situation and make the best out of it. Sometimes the outcome is not the desired outcome, though. Ongoing education helps maintain the skills and new knowledge based in medicine. If we as humans did not improve on our methods we would still be making fire by rubbing two sticks together. I also have many years teaching and educating a wide spectrum of students and have been told by many that I have a way of bringing the students into the lecture and engaging them. I talk with them and not above them. I know this is very important because I have sat for many years in classrooms and know how this feels. So, I feel my experience relates to my work at Alcor because I enjoy teaching and am able to give great training sessions to our field teams.

My years of experience and having patient contact have given me practical and communication skills that are second nature and basically reflex. Also, this experience has given me the ability to problem solve very quickly and overcome the problem(s). If you have ever been in or observed a group of emergency personnel on a scene, it can look like everyone is running around with no direction, but realistically it is structured chaos. Everyone has a job or task to be fulfilled, and the priorities can change by the minute. My emergency medical experience and fire service has also developed my leadership skills and ability to take control of and guide a team to do the best job for whatever situation is at hand.

CM: *Can you tell us about some of the projects you are currently undertaking?*

BV: I am working on a couple of projects, besides preparing for the next training, and tentatively watching a potentially terminal case. One major project involves modifications to the portable ice bath, which is used to cool the patient following pronouncement. There have been several designs in the past years, which have worked, but I might have improved upon it to make it more effective, namely so it can be used as both a portable ice bath and a shipping liner. This makes it a "two for one" type piece of equipment. Our experiments in this regard are working out very well, and the hope is that we will be able to ship from anywhere in the world to the Alcor Foundation in Scottsdale while maintaining proper temperature for the next step in the process. The other project is helping Mathew Sullivan, our Suspension Readiness Coordinator, with the mapping and identification of surgical instruments on the surgical trays. This will help turn the equipment over even faster than what is currently expected following a case.

CM: *What do you mean by "turn the equipment over even faster"?*

BV: After a surgical tray is used for a patient, the instruments must be cleaned and accounted for, and then the tray needs to be set up for the next case and sterilized. By mapping the instruments, a tech can lay the instruments out by picture and name, not just by name. This will increase the quality control and standardization of each tray. There are many instruments used in each procedure, many of which look very similar, and we want to eliminate any chance of overlooking any item.

CM: *What do you think will be your major accomplishment in 2005?*

BV: If everything goes well, I hope to have the portable ice bath experiments completed, tested and deployed to our regional teams in the United States.

CM: *How does that benefit the membership?*

BV: The major benefit to the membership is the thermal protection as a liner for shipping. We want and work towards quick shipping to the Alcor Foundation. Since members live all over this country and the world, the weather can play a major factor in transport to the facility. It can be nice here in Scottsdale, but there are major

storms on the east coast. The changes will help maintain the condition of the patient over time, such as those caused by unforeseen setbacks or bad weather conditions. We want the best outcome for the patient and are always trying to improve our techniques.

CM: *What type of projects or ideas do you have that you would like to see implemented at Alcor that would improve our capability even further?*

BV: One idea that was implemented earlier this year was finding a better training mannequin to improve and maintain the skills for the different regional teams. As we travel for training, our new friend (who needs a name) will be with us. It was great to have a mannequin put together that meets the majority of needs for this type of work. As an instructor, it gives me a great feeling to watch a team put their skills together and perform on a standby. This mannequin is a teaching tool that helps the students fix their errors and complements them on the skills they have mastered. As the commercial goes, it's "priceless".

CM: *Ultimately, what do you want to be doing five years from now?*

BV: That is a great question. I really do not know at this time, but I hope to have finished my education and achieved a PhD in some area that enables me to help people for a living.

CM: *What kind of hobbies and entertainment do you enjoy?*

BV: I enjoy seeing the countryside, going on day trips to museums, and visiting small towns to learn about the local history. I enjoy going on hikes and seeing what is out there. If I am at home watching television, I would be watching the discovery or history channel. This may be odd, but I also really enjoy going to school.

CM: *How do your friends and family feel about your job at Alcor?*

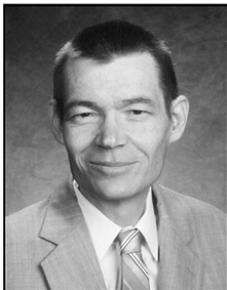
BV: My family or friends have not said one thing or another about their feelings, but they do have some great questions about what the Alcor Foundation does and about my job. My family and friends think it must be a very interesting job, which is similar to what they thought when I became a paramedic so many years ago.

CM: *Finally, what do you hope will be your lasting contribution to Alcor?*

BV: I am hoping to give quality training to the teams and help maintain their skills so our members can receive the best care possible.

CM: *Before we go, is there anything you would like to say to the membership about your new role at Alcor?*

BV: I look forward every day coming to work. There is plenty to learn in this field which is in its infancy. I am looking forward to participating in the cutting edge of this field. 



Last Early Hurrah: The Cryonics Conference of 1971

by R. Michael Perry, Ph.D.

Annual cryonics conferences had been part of the movement since it started on an organized scale in December 1963. That year's conference, held in Washington, D.C., saw the formation of the first cryonics-promoting organization, the Life Extension Society, with Evan Cooper as president. LES itself continued to host annual conferences through 1968 (with the exception of 1967). Though the organization became moribund after that and was disbanded, other, more viable cryonics groups had formed and had started hosting annual conferences in 1968. This second wave of conferences, four in number, continued through 1971.

Cryonics in these early years was marked by a heady optimism. Newly recognized technology for possibly defeating *death* was at hand, waiting to be applied as needed. Groups had been set up for the purpose, and others were being formed. The scientific establishment was understandably skeptical, but a distinguished roster of scientists, including cryobiologists, had lent advisory support. There was a sense of mission and purpose that overrode the differences and frictions that often developed among the strongminded individualists who were attracted to cryonics. The bad things that were soon to occur, including loss of most of the early patients with some searing legal recriminations, were still mostly in the future.

The 1971 conference was organized by the Bay Area Cryonics Society (BACS; now American Cryonics Society or

ACS) and held at the Sheraton Palace Hotel in San Francisco, the weekend of June 19-20. To Mae Junod of the Cryonics Society of Michigan, it "was one of the most inspiring experiences I have been lucky enough to encounter. A sense of solidarity and an even greater awareness of really solid progress in the cryonics movement sent me away, as I'm sure they did others, with a feeling that at last we are on the brink of something prodigious, some simultaneous and enormous surge forward of events that will more than fulfill the hopes we have so long cherished that the future is indeed ours."

The location itself was well-chosen. "It will be held in the elegant Concert Hall," wrote an eager Saul Kent shortly before. "Off-white walls and ceiling, embellished with gold gilt and crystal chandeliers. The similar, but cozier French Parlor for Sunday luncheon, with split level, sky light, and fireplaces." Many additional attractions were waiting even for the mildly venturesome, who were urged to explore "an endless array of world-famous spots" nearby.

Elsewhere Saul offers thoughts more relevant to the main purpose of the event. "Life is the theme of the 1971 San Francisco Conference. Of course; that is the theme of Cryonics. But making it explicit clears the head. Each of us is in a life-and-death struggle. That struggle is concrete; the 'life' of it is the person of each of us, the 'death' is in the threat of our nonexistence, ever after." The struggle for survival affects us all, but up to now "people



Conference participants. From left: M. Coleman Harris, Michelle Navarette, Jerome "Jerry" White.



*More participants.
From left:
Linda Chamberlain,
Fred Chamberlain,
Robert Ettinger.*

have had to evade, repress, rage—but perish.” Cryonics provides “an alternative, a chance. There is no guarantee of success,” but evasion of the issue “will bring its own utter reward—annihilation.”

The cost of registration was all of \$15 plus \$6 for the Sunday luncheon. Add to that the cost of travel and accommodations. For those worried about the budget, Michelle Navarette had the answer. “Go without lunch, hock the family silver, apply to the friendly loan company (the reason will surprise them).” More than sixty persons registered for the conference; fifteen papers were presented, and, Saturday evening, five round-table discussions were held. On Sunday after the luncheon a film of mind-expanding special effects was shown.

Saturday Highlights

The conference began at 1 p.m., chaired by Robert Ettinger and Mae Junod of the Cryonics Society of Michigan; opening remarks were by Jerome B. White, president of BACS. Past conferences were summarized (New York, 1968; Michigan, 1969; Los Angeles, 1970). Mr. White reminded the audience of the basic cryonics premise that without it one faces inevitable physical destruction.

Next came the first talk, one on nutrition and health. Dr. Laurence O. Pilgeram had studied the problem of coronary thrombosis—heart-attack-inducing blood clots—and concluded that the difference in effect between saturated and unsaturated fats may not be as great as commonly thought. Thrombosis is caused by the synthesis of fat molecules into clots by fibrinogen in the blood. In some tests high incidence of synthesis was introduced by unsaturated fats, contrary to conventional wisdom in which saturated fats got the major blame. Some unidentified substance in the blood apparently induces clot synthesis. Dr. Pilgeram’s views were that the problem is metabolic and that it would not respond well to nutritional supplements including vitamin E. He nevertheless advised a diet low in fat, no smoking, and moderate exercise to maintain optimum health.

Dr. Roy R. Yates, vice president of BACS and a professional educational counselor, spoke next. Cryonics is a holding process and humans must be recycled, not discarded. Just as tin cans are best reused, we do not want to clutter up the environment with “discarded humans.” No one need fear adjustment to the future following resuscitation. The adaptability of the intellect, coupled with new educational methods, will address any problems with “recycling” of resuscitees.

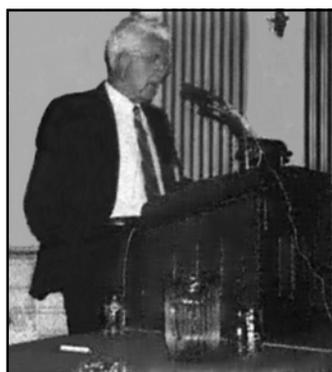


Dr. Laurence Pilgeram

Robert Nelson, President of the Cryonics Society of California (CSC), was the next speaker; his talk was titled: “Cryonics—a Program of Extended Youth and Life.” Mr. Nelson first reported on

Cryonic Interment, Inc. which handled suspensions for CSC. The company, he said, now had a hydraulic lift to handle single and multiple-patient capsules then stored at his facility. CSC itself now had 50 people who had completed legal and financial arrangements for cryonic suspension. He emphasized, however, that it is also of interest to slow the aging process, and that extended health, youth and life are the goals of cryonics.

The last talk on Saturday was by Joseph G. Cannon, consulting engineer with his wife, Terri, of Hope Knoll in Appleton, Wisconsin. The Cannons had been locked in battle with the Wisconsin legislature for years to open a cryonic storage facility at Hope Knoll. A recent decision by the Wisconsin Attorney General held that cryonic interment was legal, but other legal difficulties remained. Mr. Cannon then described some engineering design work he had recently done, with the help of a cryogenic engineer, to develop a new, economical, four-patient storage unit under the auspices of a company named Cryo-Era.



Joseph Cannon

The new, Cryo-Era unit should have a liquid nitrogen boiloff of less than 5.5 liters per patient per day, a substantial improvement over existing single- and double-patient capsules. Standing upright, the capsule would be 9.5 feet tall and 54 inches in diameter. Each of the four occupants would have an individual container which would be inserted into

the larger, vacuum-jacketed container holding all four. Presently only a set of drawings and a mockup of the unit existed, but progress was ongoing and testing was expected to begin within six months.

Evening saw some lively roundtable discussions, summarized as follows. Table A: youth and the cryonics movement, moderator Charles Nolan (a pseudonym); B: legal aspects of cryonics, Lucius Cooper and Curtis Henderson; C: life extension sciences, Saul Kent; D: sociological aspects of cryonics, Eloise Hirt and Michelle Navarette; E: financing a cryonics program, Fred Martin.

An ever-pressing issue in cryonics is financing. Mr. Martin estimated the current cost of cryonic suspension at \$25,000 including \$10,000 to \$15,000 for annual maintenance and eventual reanimation. Methods of funding were discussed, with testamentary trust or living will and insurance favored over alternatives. Hope was expressed that new developments such as the Cryo-Era capsule would substantially reduce long-term costs.

Sunday’s Main Events

The Sunday morning session was chaired by Robert Nelson, President of CSC, and Fred Chamberlain, President of Manrise Corporation (also California-based). The first speaker was M. Coleman Harris, M. D., a former president of BACS, whose

topic was “a cryonicist’s philosophy of life.” An Emerson quote seemed especially apropos: “Wise is the man ... who finds problems to solve, tasks to perform, and goals to achieve.” Adding to these sentiments, Dr. Harris offered that the cryonicist “thinks not merely of today, but of tomorrow, ... loves life, ... has an outlook that is outgoing, discovering, ... is tender and tolerant of all faiths.”

How does one promote such a movement, particularly to persons with funds to commit? This issue was addressed by John Bear, Ph.D., a San Francisco member of BACS and Director of Communication of Innerspace Environments, Inc. Dr. Bear noted that investors are attracted by (1) widespread appeal, (2) low startup costs, (3) relatively low risk, and (4) quick profit. Can this realistically apply to cryonics? (Remember, this is 1971!) Dr. Bear suggested, as a possible way to find out, a Gallup-type poll or ad in *Wall Street Journal* to estimate how much demand there might be for cryonics services. Another thought: a good location for a cryonics facility would be important for both technical and publicity reasons; Dr. Bear suggested the possibility of an abandoned missile site.

The luncheon was served in the French Parlor upstairs. Awards for contributions to the cryonics movement were presented to Robert Ettinger, Coleman Harris, Michelle Navarette, and Art Quaife. A movie was then shown, *Omega* (Donald Fox, Los Angeles) which, in the words of Fred Chamberlain, was “a music-backgrounded film of special effects related to the universe and the properties of life. ... This is a film one could see many times without loss of pleasure. ... Each person should see the film and draw his own conclusions.”

The high point of the Sunday afternoon session was “Cryonics East—A Visual Presentation.” Curtis Henderson, President of the Cryonics Society of New York (CSNY), narrated a film on transferring a patient from dry ice to a capsule to be filled with liquid nitrogen. The film was very well received and, in the words of Mae Junod, “offered a rare chance for the average person to appreciate the difficult and frustrating problems and heavy responsibilities faced by those who do the actual mechanical work with half-ton storage units and -320° [F] liquid nitrogen.” There was also a discussion of “snap freezing” which would use high pressure techniques in place of cryoprotectants to minimize low-temperature damage. Paul Segall and Harry Waitz of BACS were

working on this idea; related to it, a New-York-based company, Negative Entropy, Inc., had been formed.

Other Presentations

Many other presentations were made, mostly on Sunday. Of special importance was Peter Gouras’s work and suggestions on an improved

suspension protocol, and Fred Chamberlain’s new, working perfusion machine.

Dr. Gouras had been working some months on a new protocol for human cryopreservation, with advice and assistance from Art Quaife, Fred Chamberlain, Prof. Armand Karow, Prof. James A. Miller, Laurence Pilgeram, and others. The new, as-yet unimplemented, procedure involved three stages. In the first (“immediate”) the patient’s blood and body fluids would be replaced with an “intracellular perfusate”—a more recent term



Dr. Peter Gouras

is “base perfusate”—containing no cryoprotectant. The temperature would be lowered to around 0°C . In the second (“cryophylactic”) phase, cryoprotectant (DMSO in this case) would be circulated into the patient, replacing the base perfusate. During this operation the temperature would be lowered to -70° , near the temperature of dry ice, a feat which was then unachieved (and still is!), so considerable research with cryoprotectants

would be needed to make it possible. (It is worth noting, however, that a two-pass perfusion of base perfusate and then cryoprotectant has since become standard in cryonic suspensions, though the temperature stays in the vicinity of 0° .) In the third (“neophylactic”) phase, the temperature would be lowered from -70° down to liquid nitrogen temperature, -196° . Though such cooling was routine (as it still is), the need was noted for much research to understand what is taking place in this temperature range and how to obtain optimal results.

Cryonic suspension is not a simple process of straight freezing, but a much more elaborate operation in which the patient’s tissues are carefully treated to minimize any damage that might occur in cooling to low temperature. The first cryonics patient for which any sort of perfusion was attempted (the second patient frozen) was James Bedford, who was frozen early in 1967. In his case, however, perfusate (a glycerol-based solution) was simply injected and an attempt was made to circulate it using external heart massage. This is a very ineffective method, and the results probably differed but little from a straight freeze. The next freezing, that of Marie Phelps-Sweet, occurred the following summer and was the first using actual perfusion. But this employed a crude, one-step method, done by a mortician with an embalmer’s pump. The problem with such methods is that body fluids—blood especially—tend to inhibit the flow of cryoprotectant through the body; thus it is desirable to first replace the body fluids with base perfusate, then proceed with a second stage of perfusion in which cryoprotectant is introduced. This problem was recognized early by a few people, notably Fred Chamberlain, who four years later had devised a machine of his own capable of carrying out



Curtis Henderson

perfusion, and was showing it to crowds of admirers at the conference.

It would, of course, be possible to carry out a two-step perfusion (or more than that) with an embalmer's pump. Fred's innovation was to incorporate pressure gauges and other instruments in the rather complicated array of tubing, heat exchanger and pump he devised, so that conditions during a perfusion could be carefully monitored for optimal results. As he himself reported, "[it is] a 'two-loop' system with perfusion and heat exchanger circuits driven through a common pump. The perfusion circuit embodies a flow meter, perfusion flow valve, pressure gauges, and return filter, while the heat exchanger with bypass and a main reservoir are located in a second loop."

Another talk relating to technical issues was "Factors Involved in the Suspension of Humans" by Charles Nolan. A possible mechanism for limiting damage as tissue is cooled was noted. Glycerol can reduce the solubility of hydrocarbons in cooler water by providing bonds between amino acids. Data were presented on cell survival during freezing as a function of cooling rate. (As it happened, glycerol would replace DMSO as the main cryoprotectant in cryonic suspensions, and remain in use for many years.) Topics addressed included dehydration, experimentation with nonhuman cellular structures, means for neutralization of stomach acid (important in work with the partial freezing of small mammals), and formation of ice in capillaries.

The technical end is certainly important in cryonics, yet not the only thing that matters. Jerry White, who gave the opening remarks, also presented an interesting philosophical discussion that touched on the basic issues of consciousness, personal identity, and survival. The nature of consciousness was examined, including the possibility of alien (extraterrestrial or exobiological) and artificial consciousness. It was noted that in cryonics we are trying primarily to perpetuate the specific, individual consciousness rather than, for instance, limbs or sense organs, which are replaceable.

Another important issue concerns pre-suspension patient care, which can greatly affect the quality of a suspension, irrespective of the procedures that may be available. In her talk, "Options," Eloise Stirling Hirt, Program Director of the San Francisco Senior Center, suggested (1) encouraging retirement homes to offer cryonic suspension as an alternative to burial, and (2) legally recognizing the right of the elderly to choose premortem cryonic suspension. Members of the Senior Center were said to have responded favorably to both suggestions.

Robert Ettinger, in "The Natural History of Idealism," expressed his optimism that cryonics would succeed and suggested some important developments that would be needed, such as new leadership and appropriate commercial approaches. Motivation is a central issue. People must somehow be convinced that future life would be worth living and that changes necessary for this sort of future would be worth adjusting to.

Finally, Joseph W. Still, M.D. of West Covina, California, had two talks to offer. The first was on hormone replacement therapy, particularly estrogen replacement which had shown

promise in suppression of circulatory diseases in elderly women. The second dealt with phases of death following brain anoxia (absence of oxygen due to loss of blood flow after cardiac arrest). Although his charts placed "vegetative death" (an apparent point of no return) as occurring eight minutes after onset of anoxia, Dr. Still acknowledged that this figure was questionable in view of recent research.

In all, the conference was an impressive one, like the three which preceded it. These had been annual events, establishing a pattern, and more of the same might have been expected. In the closing address Robert Ettinger noted that as yet there were no plans for a conference the following year (1972), though hopes were expressed that there soon would be. As Mae Junod put it, "the value of such gatherings is great and bound to have a beneficial influence on the movement as a whole."

Alas, it was not to be. The year 1971 seems to have been one of those times when things looked better than they really were. Cryonics in reality was in for some tough going, and there would be no more major gatherings for awhile. (The next appears to have been the Alcor conference in Los Angeles in 1978.) Older organizations such as CSNY and CSC would tumble, the latter with legal recriminations over the loss of patients, and new ones would form, most notably Alcor, Trans Time, and the Cryonics Institute. Important people would leave the movement while others would stay and others would join. Some important innovations would have lasting value, such as Fred Chamberlain's work with perfusion machines, work that would be continued with substantial effort and effects in coming decades. Most importantly, the cryonics movement would endure the hardships of the next decade and more—and survive. Bitter lessons relating to financing and other issues would be learned the hard way—from experience—and adaptations would be made to minimize the risk of failures including loss of patients. Cryonics has now emerged stronger than ever, as attested by our growing strength, both technically and in terms of membership, patient security, and public image.

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QUOTATIONS of the various authors used in this report are from the above articles.

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Member Notes

(continued from page 5)

Website Sights

Heightened web activity continues into March with 5,000 more distinct computers visiting our site than normal:

16,655	October
15,986	November
15,080	December
17,448	January
29,481	February
22,636	March



A major research article on brain cryopreservation with high concentration glycerol (1990's cryonics technology) was reproduced on the website. It is accessible via the Cryobiology subsection of the Scientific Basis section of the Library and is unprecedented in its rigorous examination of cryopreservation with glycerol, with stunning micrographs:

<http://www.alcor.org/Library/html/braincryopreservation1.html>

The Thomas Donaldson right-to-die case web page was also expanded to include much more background, including the text of the final court decision:

<http://www.alcor.org/Library/html/Donaldson-VanDeKampAbstract.html>

Emergency Response Improvements

Our emergency phone number has not changed in many years, but some members may still carry outdated emergency alert tags (bracelets and necktags). It is important to keep the emergency numbers current. A quick phone call to Alcor Central may one day be crucial. We have made diligent efforts to ensure members receive updated tags when changes are made. All members should verify that their tags have the following correct phone numbers: 800-367-2228 and 480-922-9013 (note area code). If the numbers on your tags do not match these, we apologize and you are encouraged to let us know about the problem immediately so we can send you replacement tags. Contact D'Bora Tarrant at Alcor: 480-905-1906 x 101 or eMail her at dbora@alcor.org.

Regional Readiness: Northern California

The Northern California Regional Coordinators have resigned. We regret the loss of these team members but intend to ensure that northern California retains its transport capabilities and continues to benefit from the improved training we are now providing. Though a new northern California Regional Coordinator has not been selected, we have identified a member willing to hold the medical kit until such time as a new coordinator is selected. Despite this setback, Alcor's Director of Technical Operations, Tanya Jones, believes that communication and collaboration are on the rise within the various regions and that recent changes in protocol have begun to improve standardization in field procedures.

Pet Cryopreservation

Alcor cryoprotected and preserved a companion animal recently, the first to be done in some time. Usually animals die unexpectedly and cannot receive cryoprotection, but this case went well. The animal was brought to us live and was euthanized by a licensed veterinarian. We immediately began cryoprotection and were able to achieve 101% of the concentration needed to vitrify.

Media

In March, Alcor participated in interviews for a Russian newspaper, an online anti-aging magazine (UK), the Baltimore Sun (US), T3 magazine (UK), a Greek newspaper, and a book titled *Exit Strategies* (US). Numerous filming events are scheduled for April and May, and additional interviews are being arranged.

Membership

At the end of the first quarter, Alcor had 730 members on its Emergency Responsibility List. Our average net gain is 5.6 members per month. Thirty-one applicants were recently dropped due to inactivity, bringing the applicant queue total down to 106.

Conference Postponed

The Alcor conference scheduled for August 2005 has been postponed until 2006. Details about the next conference will be released at a later date.

Facility Upgrades

The first phase of construction for completion of the new Patient Care Bay is underway. It will hold 25 dewars as opposed to our current 7 and 450-900 patients, depending on how many whole body and neuro cases are performed. Alcor is also constructing a new operating room that will give us the ability to perform two cryopreservations simultaneously. Other changes include developing a new tour path (so people can view the Patient Care Bay externally), relocating the conference room, and designing a new clinical lab. The expected completion date is June 30, 2005.

Avoiding Cryopreservation Conflicts

As a result of the A-1099 case report published in the Nov/Dec issue of *Cryonics* magazine, a few members have changed their cryopreservation arrangements so as to avoid conflicts with familial expectations. If you will recall, this case took a turn for the worse because the member's family was eligible to receive a large inheritance only if the member's cryopreservation did not occur. Since publishing this case report, we have received several calls from members who are reallocating the distribution of their funding if cryopreservation is not possible. Unfortunately, allocating the funds to family members, even those who appear sympathetic, has been known to create an incentive to interfere with the cryopreservation process. It is a good idea to keep your family support funds separate from your Alcor funds. Please take the time to review your arrangements and call Diane Cremeens, Membership Coordinator, for recommendations or assistance with making changes. 877 - GO ALCOR extension 132

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Have you ever thought about joining the team here at Alcor central? We have immediate needs for licensed paramedics and emergency medical technicians to join our nationwide Transport Teams. Your participation would be on a contract basis. You will be given cryonics training that will enable you to participate in our rescue and patient transport cases. Licensed professionals do not have to be members to work with us. We welcome your expertise and interest.

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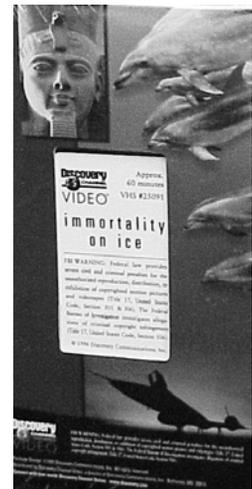
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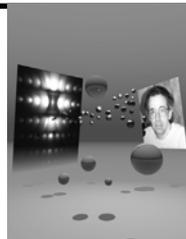
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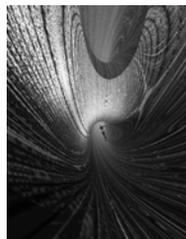
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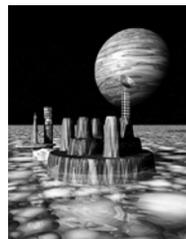
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