

# Alcor News

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December 2011 #108

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## PATIENT CAT SCAN PROJECT

During the month of November the research and development team made a field trip to a local medical CAT scanning service, taking with them two recent neuro patients. Due to circumstances surrounding their death, one patient was cryoprotected and the other was not.

Neuro Scan Figure 1

Patient safety is Alcor's main objective, and with that in mind our neuro patients were transported inside individual liquid nitrogen dewars securely tied down and well padded against vibration in the back of our Rescue Vehicle.

Having safely returned from our trip and taking care of returning the patients to the patient care bay, Steve Graber opened up the first of the patient scan files in our 3-D visualization software. This is where the team could really see some interesting things. First, using the 'Slice' tool to remove a small section of the skull (Fig. 1) and looking into the brain cavity we could make out the sensor wires which were previously placed into the brain cavity during surgery. Through the slice we can see variations in brain density which is visible in the red and purple range. NOTE: Color designations are entirely arbitrary.

## MEMBER COMMUNICATIONS DIRECTOR

A new position called the Member Communications Director has opened at Alcor. The Member Communications Director's job will be to communicate with Alcor's members by email, by telephone, and in person for multiple purposes.

For detailed information on the position requirements and job description please click on the link below.

[Qualifications/Compensation HOW TO BECOME AN ALCOR MEMBER](#)

Becoming an Alcor member is easy and surprisingly affordable, if you are in good

A direct comparison of two brains digitally enhanced in software (Fig. 2) highlights unusual density variations between

Neuro Scan Figure 2

health and eligible for life insurance, which will pay for your cryopreservation. (If you are not insurable, other financial arrangements can be made. Please ask us for details.)

[ALCOR MEMBERSHIP INFORMATION AND ENROLLMENT INSTRUCTIONS](#)

Alcor Life Extension Foundation is on Facebook. If you would like to connect with Alcor members and supporters then visit: [Official Alcor Facebook](#)

Become a fan and encourage interested friends, family members, and colleagues to support us too!

To find out about: Alcor Training Sessions; Regional Cryonics Meetings as well as Non-Alcor Events in your area, please visit: the [UPCOMING EVENTS](#) page on our website.

brains. When one compares these identically composed, sectioned and displayed images of a cryoprotected brain (top image) vs non-cryoprotected brain it is clear that there is a big difference in overall density between these two brains. A-1546 displays a significantly greater electron density than A-1088 throughout the majority of the brain. Overall the A-1546 brain is much more electron dense and we believe this to be evidence that perfusion did occur, at least in certain areas. It is important to note that we do not feel that complete perfusion of cryoprotectant was achieved across the entire brain. This may be due to the fact patient A-1546 was pronounced out of state and experienced a travel time of 18 hours from pronouncement to the beginning of the cryoprotective ramp in the Alcor O.R. A future test of a variety of substances under the CAT scanner in LN2 is expected to help to identify electron density specifics of cryoprotectants, which in turn will make our analysis that much more complete. We also expect to test a locally pronounced patient vs an out of state pronounced patient to determine the quality differences in cryoprotection caused by the time-lag to cryoprotection between these two scenarios.

#### ALCOR'S 109TH PATIENT

Alcor member A-1546, Leonard Emerson, was pronounced on Wednesday November 9, 2011. A neurocryopreservation case, Mr. Emerson became Alcor's 109th patient.

Mr Emerson had been on our watch list for a couple of years. He originally went into the hospital with a pulmonary embolism and it was discovered that he had gastric cancer. He said that a follow-up PET-CT exam showed that he was free of any problems. However, he went back into the hospital on November 3, 2011 with difficulty breathing, and was treated for pneumonia, hypotension, and tachycardia. Doctors discovered that his lungs were riddled with metastatic gastric cancer and that he had a hepatic lesion.

Alcor was alerted to the worsened situation by means of a medical alert message on November 5. The doctor estimated that Mr Emerson had perhaps two or three weeks remaining to live and wanted to transfer him to a hospice. The \$5,000 available for moving to a Scottsdale-based hospice was mentioned; the member's wife did not favor the idea but was otherwise cooperative. Alcor faxed written directions to the doctor for review and later spoke to the hospice director. Mr Emerson was being cared for by a hospice-at-home program from November 7.

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<http://www.alcor.org>

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At 12:55 PM on November 9, Mr Emerson's wife reported that he was having severe breathing difficulties. Although just a couple of days earlier, doctors had estimated that he had several more weeks, the Deployment Committee had decided on November 8 that a standby was indicated. Since Aaron Drake could get there before Suspended Animation, he left Phoenix at 10:33 AM to fly to Washington (state) with a mini-med kit. Mr Emerson declined even faster than expected, so that Aaron arrived just an hour and a half before clinical death (which was around 5:30 PM PST). The SA deployment, which wouldn't be possible until the next day, was canceled. Aaron dealt with the situation on his own, although SA handled arrangements with the mortuary.

Mr Emerson was delivered to Alcor at 10:44 AM on November 10, with a pharyngeal temperature of about 6C and no sign of clotting. The time from arrest to on the pump was 17 hours, 52 minutes. Good perfusate flow was observed, with even perfusion of both hemispheres and even skin coloration. Cryoprotection was completed at 4:31 PM MST.

#### ALCOR'S 110TH PATIENT

Alcor member A-1277 was pronounced on Friday, December 9, 2011. A whole body case, A-1277 became Alcor's 110th patient.

A member in the Yonkers, New York area had been in and out of the ICU at a local hospital for more than two months. Her son, also a member, was the liaison between Alcor and her medical providers. Despite numerous procedures and an encouraging recovery, she suddenly and somewhat unexpectedly succumbed to her illness, arresting at 3:55 AM (MST) and then pronounced. Previous communications with the hospital and a local mortuary prompted immediate heparinization, circulation, ice application and an expedited release from the hospital.

The time needed for a team response was greater than simply initiating an immediate airline shipment. Therefore the patient's cooling was continued by the mortuary along with packaging and processing of the appropriate paperwork. The patient arrived in Alcor's surgery suite at 10:13 PM on Friday night at a temperature of 2.6C. Cryoprotection was ended at 3:02 AM on Saturday December 10, and cooling with liquid nitrogen begun at 3:50 AM. At the time of writing, A-1277 is at -140C and cooling.

#### FOLLOW UP TEST - NEW O.R. TABLE

80L H2O/Propylene Glycol 30/70 to -80C with Mylar Blanket.

New OR Table with Blanket

In November, Steve Graber reported on a table cooldown test to -80C using saline water

which demonstrated that the water bags in the cooldown chamber experienced difficulty passing through the ice temperature barrier, resulting in a very long cooldown process. Ultimately the test was stopped before the bags reached any appreciable cooling. Additionally, the research and development team noticed the table was cooling the leg portion much quicker than the remainder of the table.

The test was designed to more closely approximate the cooling characteristics of an actual patient scenario by using a mixture of anti-freeze and water in a 70/30 mix, rated to -65C. Steve's test was run in essentially the same fashion as the previous run with identical LN2 consumption (two 200-liter dewars), and the data collection continued for an additional day to record the warmup segment. The table cooling tuning has been slightly over-corrected with the head and torso areas now cooling more quickly than the leg area. This should now allow him to dial in corrected vent opening settings for even cooling across the table. In the test the team noticed a significant improvement in the temperature drop vs saline water. At the end of our 10 hour test both the head and torso bags are nearing terminal temperature and the leg bag lagging behind. We achieved close to -80C cooling on our test bladders using LN2 at about the same rate as our current cooldown equipment.

## ADMINISTRATIVE REPORT

### [Membership Statistics](#)

Alcor had 958 members on its Emergency Responsibility List. Seven memberships were approved during the month of November, one membership was reinstated, no memberships were cancelled and one member was cryopreserved. Overall, there was a net gain of seven members in November.

### [Applicant Statistics](#)

Alcor had 44 applicants for membership. Seven new applicants were added, seven applicants were converted to members and eight applicants were cancelled resulting in net a loss of eight applicants in November.

### [Information Packet Statistics](#)

Alcor received 92 info pack requests in November. Twelve were handed out during facility tours or from special request. The average total of 105 info packs sent per month in 2011 compares to 199 in 2010. The full [Information Packet](#) is now available online.

## NEXT ALCOR BOARD OF DIRECTORS MEETING

The next [Alcor Board of Directors](#) meeting is currently scheduled for SATURDAY, January 7, 2012, at 11:00 AM (MST) at the Alcor facility (7895 East Acoma Drive in Scottsdale, AZ). Members and the public are encouraged to attend this meeting.

#### DONATIONS ACCEPTED ON ALCOR WEBSITE

Now our valued supporters can [make a charitable donation](#) anytime just by clicking the "Donate" button on the Alcor website.

Alcor has a long, proud tradition of innovation and technical excellence in the field of cryonics. Your gift will make a difference in our quest for better cryopreservations.

Your decision to [DONATE](#) is sincerely appreciated. Remember donations are tax deductible.

#### ALCOR NEWS BLOG

Don't forget! You don't have to wait for this monthly newsletter to learn more about happenings at Alcor. Check the Alcor News Blog throughout the month for the most up-to-date information.

[Alcor News Blog](#)

End of Alcor News  
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