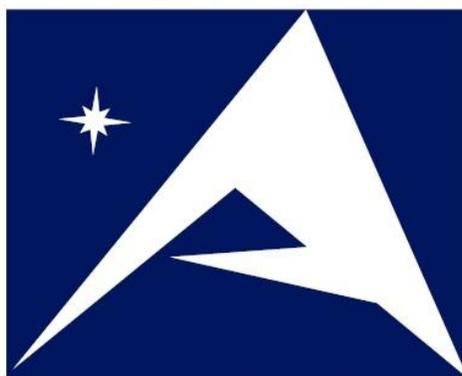


**Alcor A-1624  
James Baglivo  
Case Report**

**ALCOR**



**LIFE EXTENSION FOUNDATION**  
*The World's Leader in Cryonics*

**[www.alcor.org](http://www.alcor.org)**

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Hugh Hixon, Alcor Research Fellow  
Steve Graber, Alcor Technical/ Readiness Coordinator**

**March – 2017**

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## 1. Overview

*\*Names and specific identifying information have been removed in places to protect the privacy of third parties. All times are expressed in Mountain Standard Time (Arizona Time) (MST) unless otherwise indicated.*

In January 1994, Alcor Life Extension Foundation (Alcor) ran an essay contest in *Omni* magazine. Readers from around the US entered submissions as to “Why they wanted to be cryopreserved.” The winning writer, James Baglivo, was only 22 years old at the time of the contest. His grand prize was a life insurance policy intended to pay Alcor for his cryopreservation, at the time services would be required.

James Baglivo, who was member A-1624, was pronounced legally deceased on 25-Aug-2015 at a hospital in New Jersey. He was 44 years of age. A nurse with an organ procurement company saw the member’s Alcor medical alert bracelet and notified them accordingly.

Alcor personnel were successful in preventing the member’s autopsy. A field cryoprotection was authorized in the member’s case in lieu of a *straight freeze* procedure in case the elapsed time since the member’s pronouncement left no other alternative. Alcor secured an air ambulance to fly their personnel and equipment to the member’s bedside more quickly. The team returned with the same flight crew to Scottsdale, bringing the member to Alcor. Member A-1624 received a neuro cryopreservation due to the circumstances of his legal death and became Alcor’s 140<sup>th</sup> member on 26-Aug-2015.

## 2. Personnel

### **Alcor Team:**

Aaron Drake, NREMT-P, NAEMSE, Alcor Medical Response Director; Acting Surgeon, Cryoprotective Surgery; represented by (AD) in the report.

Steve Graber, Alcor Technical/Readiness Coordinator; Cryoprotective Perfusionist; (SG).

Hugh Hixon, Alcor Research Fellow; Cooldown Coordinator; (HH).

Max More, Ph.D., Alcor Chief Executive Officer; Direction and Oversight; (MM).

Steve Harris, MD, Alcor Chief Medical Advisor; Direction and Oversight; (SH).

## 3. *Omni* Magazine Essay Contest

Back in the early 1990’s, Charles Platt created a promotional campaign for cryonics: An “Immortality Prize” hosted by *Omni* Magazine, the winner of which would receive a cryopreservation free of charge. *Omni* magazine was a science and science fiction magazine published in print form from 1978 to 1995. It was shut down in early 1996 following the death of one of its founders, with a print run of over 700,000 copies per month, as was reported. Offering

a free cryopreservation as the prize for winning an essay contest generated an unprecedented degree of exposure for cryonics and Alcor.

James Baglivo, then aged 22, was the winner of the *Omni Magazine Immortality Prize*. It took James some time to complete his arrangements, with his membership being finalized on 18-Jan-1996. His essay won him a \$120,000 life insurance policy that Alcor purchased on his behalf to pay the costs of cryopreservation when the time came. He also remained a member even though he had never responded to any notices, requests or communications of any kind in ten years. That lack of communication made responding to him later with speed and effect considerably more challenging. The first notice that Alcor received from him after many years was the emergency call.

#### **4. Pre-Deployment and Health History**

*\*Note: The narrative will be expressed in the member's local time (EDT) for continuity, and then MST in the timeline and graphic data*

The TeleMed call was received initially on 25-Aug-2015 at 05:03 hrs MST, (08:03 hrs EDT). The call came from a nurse representative of an organ procurement organization. Simultaneously, there was another TeleMed call from the member's mother. Both messages were notifying Alcor that the member had experienced cardiac arrest and been pronounced legally deceased.

The organ procurement nurse had noticed the member's medical alert tag and was wondering if they could harvest some tissue depending on whether or not Alcor was able to fulfill his donation request. This was ultimately unfeasible.

The second call was placed to the member's mother. She described that her son had been out with friends the previous evening and at approximately 22:00 hrs EDT, on 24-Aug-2015, had collapsed. This collapse was witnessed by his friends who called an ambulance as he appeared to be in cardiac arrest.

The medical team was successful in resuscitating the member. They then conducted a CT scan of Mr. Baglivo's head and abdomen, both of which were negative for abnormal findings. A blood toxicology screen was negative for all drugs except alcohol which was already known as he had collapsed in a bar. They concluded that he had likely suffered an anoxic brain injury as a consequence of his cardiac arrest, resulting from too much time passing without oxygen.

James Baglivo experienced a second cardiac arrest when already in the hospital, at approximately 01:00 hrs EDT. He was on a ventilator although details of this event are limited. According to the member's mother, he was considered *brain dead* by hospital staff. At 05:55 hrs EDT he was removed from the ventilator and experienced his third and final cardiac arrest. James Baglivo was then pronounced legally dead at the same point.

The member's mother advised Alcor that because he was only 44 years old, the medical examiner was planning to perform an autopsy. AD called the Medical Examiner's (ME) Office to inform them of the member's intention to donate himself to Alcor upon his legal death. Alcor's objective was to work with the ME's office in the hope that they could waive their right to perform an autopsy, as this would be contrary to the member's directives.

The ME advised that they needed to find out why the member experienced cardiac arrest. They suspected a pulmonary embolism but did not have very much evidence to support this as the CT scans, and the toxicology screens were negative. Once the ME's office received a faxed copy of information regarding the Uniform Anatomical Gift Act (UAGA) as it pertained to the member, they took his wishes into consideration. The ME's office did advise that the autopsy would not necessarily be absolute and that they could remain flexible, especially "in the name of science." AD sent a letter to the ME's office, along with the UAGA, which is described below.

**4a) Letter from Aaron Drake, Alcor Medical Response Director to Atlantic County Medical Examiner**

August 25<sup>th</sup>, 2015  
Atlantic County Medical Examiner  
Attention: XXX  
New Jersey

RE: James Baglivo

Dear Ms. XXX,

Thank you for taking my call this morning. This communication concerns the disposition of the human remains of James Baglivo, who died on August 25<sup>th</sup>, 2015. At the time of his death, Mr. Baglivo was a member of the Alcor Life Extension Foundation, a 501(c) (3) Non-profit Scientific Research Foundation, based in Scottsdale, Arizona.

Mr. Baglivo donated his body to Alcor under the Uniform Anatomical Gift Act for the purpose of having his body immediately cooled and then cryopreserved by Alcor. In accordance with Mr. Baglivo's post-mortem directives, it is our request to the Medical Examiner not to abrogate his civil rights and instead consider waiving the authority to perform a destructive autopsy to determine the cause of death. Mr. Baglivo already declared that he did not want an autopsy carried out on him, and there is absolutely no public interest which would be served by the performance of an autopsy. This is confirmed by the medical alert tag (bracelet/necklace) that he was purported to have been wearing at the time.

( . . . . )

Within the paperwork, on page two (2) of his application, Mr. Baglivo states a history of diabetes, heart disease and numerous complications following an automobile accident that occurred in 1991. His mother stated this morning that he developed a seizure disorder following his accident and was non-compliant with respect to taking his prescribed medication. Hopefully, this information along with any diagnostic imaging that was performed by the hospital and toxicology screening will be sufficient to consider this request.

( . . . . )

Regarding the last attachment, Mr. Baglivo won an essay contest in 1993, sponsored by Omni Magazine, where we wrote about his desire to be cryopreserved upon his death so that as medical and technological

advancements progress, he may have the opportunity to be resuscitated and restored to health at some unknown time in the future. His submission was published (Los Angeles Times, among other news publications) and \$100,000 was awarded to help fulfill his directives.

Thank you in advance for your consideration,

Aaron J. Drake, NREMT-P, NAEMSE  
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The member was 5'11", and at age 24 when he completed his Alcor application, weighed 91 kg. The member had been involved in a severe car accident in 1991, which resulted in injuries to his head, spine, right hip, and legs. He suffered from a seizure disorder as a consequence of the crash, as well as other unspecified complications. He was non-compliant with his medication regime.

According to his Alcor application, written on 16-Feb-1995, the member had two plates in his right orbital socket, Harrington rods in his lumbar spine, a screen in his jugular vein [sic], and ankle reconstruction. The member reported a family history of diabetes and heart disease. He denied having any allergies or taking any medications.

## 5. Preparation and Deployment

Flights from Scottsdale to Atlantic City were limited, and direct flights were unavailable. The closest major airport was in Philadelphia, and the last available flight was at 18:00 hrs EDT on 25-Aug-2015, which created a logistical challenge. As a result, AD reached out to a local air ambulance company. A one-way and a return trip quote were provided.

Alcor received notification from the ME's office that the coroner was going to waive the right to do an autopsy and that the member would be released to Alcor's care. The coroner was planning to do a non-invasive examination of the member and thus was not prepared to release him until the next day. AD reiterated that they really could not wait, as the window to perform surgery was only 24 hours long.

Concurrently, the team at Alcor prepared for the field perfusion according to the direction of Alcor's CEO, Dr. Max More (MM). The timeframe for flying to the member meant that Alcor's only options would be to do a *field neuro cryoprotection* or a straight freeze. There would be no time to fly to the member and get back in time for a perfusion at Alcor. Those were the only two options.

A short time later, AD received a callback from the ME's office, stating that they would go ahead and allow for the member's release the same day, but with some time constraints. The morgue space at the hospital where the member was being kept was rented, and the personnel there ended their day at 15:00 hrs EDT. After that, the member would not be able to be released. That gave Alcor about 90 minutes to find a mortuary that was willing to participate and retrieve the member within that timeframe.

Fortunately, they had a referral for a small family-owned mortuary that they said would probably be interested in helping. AD reached out to them. They were very interested in helping and willing to comply with the time restrictions.

The mortuary was advised that Alcor's requirements would be that they would need a mortuary prep room to use for about six hours for surgery and perfusion, and a need for coolers, purchased water ice, and dry ice to keep the member as cold as possible throughout the entire process. They agreed and said that they would pick up the member within the time restriction.

This message was conveyed back to the ME's office who was in agreement. Documentation was transmitted by fax, filled out, notarized, and returned, authorizing the release of the member from the Medical Examiner to Alcor.

Back in Scottsdale, the team continued to put together the *field neuro* kit and confirmed the flight with the air ambulance. As the team was unable to prepare quickly enough to get to the airport by 13:30 hrs MST, the air ambulance was the only option. As well, many of the flights were connections, which meant spending too much time in transit to be feasible. The only other commercial flight was at 22:30 hrs MST that would not arrive at the location until 09:00 hrs MST the next day.

Alcor went ahead and authorized the air ambulance company to notify their pilots, as there was a two-hour advanced window necessary for flight preparations. The team was to meet the plane at Phoenix Sky Harbor, on the private side of the airport by 15:00 hrs MST. The flight was scheduled to last four and a half hours, with a one-hour fuel stop in St. Louis, MO.

The team arrived at Phoenix Sky Harbor Airport just a few minutes before 15:00 hrs MST. Loading took a bit longer than usual as they had more equipment than they would normally carry on a typical flight. The plane was a Lear 35 Air Ambulance/ Medical Airlift Configuration. Much of the Alcor equipment had to be strapped down, so the departure was at 15:30 hrs MST. The approximate arrival time was 23:00 hrs MST or a bit later.



(Aaron Drake and Steve Graber loading the air ambulance at Scottsdale Airport 25-Aug-2015)

It ended up that the mortuary was about 45 minutes outside of Atlantic City. It was 24 miles from the Philadelphia airport, so the flight re-routed to Philadelphia, PA, instead of Atlantic City, NJ. There was a van waiting for the team.

Although initial success was achieved in stopping the invasive autopsy, time was the driving factor in the decision-making process. There was insufficient time to retrieve the physical entirety of James Baglivo and bring him to Alcor for a whole body *cryoprotection*. As it was, options were limited to a straight freeze (with massive attendant damage from ice crystals) or a *field neuro cryoprotection* and transport on dry ice. MM made the decision to authorize the *field neuro cryoprotection protocol*. This would enable the Alcor team to cryoprotect the member's brain with a minimal delay even if an operating room would not be available. The move from *whole-body with no cryoprotection* (with a long delay), to *neuro cryopreservation with field cryoprotection* (with a much faster timeline), also enabled Alcor to pay for an air ambulance specifically to meet the member's time sensitive needs.

## 6. Field Cryoprotection Surgery and Washout

*\*Note: The member is now the patient; Times are now all expressed in MST. [time] means that the intervention time was not provided.*

### Summary:

Through the night, AD, in the role of Acting Surgeon, performed the *field neuro cryoprotection* and cannulation while SG ran the portable pump-powered perfusion equipment. He achieved

target concentration through a 15-step cryoprotection ramp. The team then used dry ice to provide rapid cooling in Alcor's specially designed *neuro shipper* container.

### 25-Aug-2015

The team arrived at the funeral home at 22:43 hrs MST. The documentation was dropped off, and the patient was visually assessed. The patient was found to be morbidly obese, with no visible neck. His shoulders were elevated in an attempt to visualize his neck better, with his arms above his head. An intraosseous needle was initiated in the patient's left shoulder. Mannitol was administered, and the patient's head was shaved.

By 23:10 hrs both of the carotid arteries were raised, and the burr holes were initiated. The decision was made to perform the cephalic isolation after the burr holes were made, and prior to cannulation, due to the size of the patient's neck. The burr holes were completed by 23:13 hrs.

At 23:29 hrs, the nasopharyngeal (NP) thermocouple was inserted, and temperature logging was started. The patient's NP temperature was 14.8 °C.

AD cannulated the left side of the patient's neck and started the washout with the first bag of the ramp. Their plan was to run two bags of B1 for washout. The pressure in the system was 111 mmHg, and the NP temperature was 1.0 °C. The burr hole thermocouple temperature was reading 14.3 °C, NP temperature 14.6 °C, and HH's pressure monitoring value (expressed informally as *Hixon units*) was 321.3 (99 mmHg) and dropping. <sup>1</sup> (*time not noted*)

The system pressure was 140 mmHg, and there was no visible jugular flow. The surgical team focused on trying to improve this by clamping the bypass. This created a pressure of 170 mmHg once the bypass was off. It was noted that unclamping the bypass dropped the pressure and increased flow. (*time not noted*)

<sup>1</sup> \*Note: The Hixon unit represents a pressure which was recorded by adapting a thermocouple measurement meter to read input from a pressure sensor. The pressure figures are an alias which must be translated by an empirical equation:

$P = 1.1092 T - 257.46$  (Where  $T$  is the value displayed on the pressure channel)

### 26-Aug-2005

By 00:02 hrs the left vertebral artery was clamped, and the right was being sought, which marked the first time this had been performed in a *field neuro cryoprotection* procedure. The ramp had also been started at the same time.

Also at the same time, the patient's perfusate temperature was 2.4 °C, his neural temperature was 4.9 °C, and his NP temperature was 10.4 °C. His pressure was 334.1 *Hixon units* (113 mmHg). At this point, the team was halfway through the second bag, and the third bag was hung. The right carotid artery had become nicked, and AD was repairing it.

The system pressure was 138 mmHg along with a pressure of 335.5 *Hixon units* (115 mmHg) (*time not noted*)

At 00:10 hrs, AD inserted a thermocouple into the patient's left jugular vein. The thermocouples from the left jugular vein and the burr hole were switched. At this point, the burr hole temperature reading became the left jugular vein reading during the procedure, and at the end, it was switched back for cooldown transport. This was done to enable HH to collect the jugular vein readings.

By 00:16 hrs, half of bag #4 was infused. A refractive index reading was taken from the left jugular vein. It was 13.3 Brix.

At 00:20 hrs, the right jugular vein refractive index was 15.6 Brix at the end of bag four.

At 00:24 hrs the refractive index was 17.4 Brix from the left jugular vein. The system pressure was 140 mmHg. It held steady the entire time. The left jugular vein temperature was 4.1 °C, and the right jugular vein temperature was 6.5 °C. The temperature of the perfusate was 2.5 °C. The pressure was 338.4 *Hixon units* (118 mmHg)

At 00:29 hrs bag #7 was hung, but it had not been spiked yet, as Bag #6 was still flowing. The system pressure was 138 mmHg, and the pressure was 335.5 *Hixon units* (115 mmHg). The left jugular vein temperature was 4.0 °C, the right jugular temperature was 6.8 °C, and the temperature of the perfusate was 2.5 °C.

At 00:31 hrs the refractive index was 22.5 Brix. At this point, half of bag #6 was infused.

At 00:37 hrs the pressure was 130 mmHg, and the refractive index was 24.3 Brix. Bag #7 was initiated. The left jugular vein temperature was 4.2 °C, the right jugular vein temperature was 6.5 °C, and the temperature of the perfusate was 3.2 °C. The pressure was 330.2 *Hixon units*, (109 mmHg).

At 00:44 hrs the refractive index was 30.6 Brix. Bag #7 was  $\frac{3}{4}$  completed. At this time bag #8 was opened. The left jugular vein temperature was 4.2 °C, and the right jugular vein temperature was 7.2 °C. The temperature of the perfusate was now 8.2 °C because more pressure needed to be supplied to the patient which would reduce the number of times the perfusate could be run past the heat exchanger. The unusually slow flow was noted across the body of the patient and into the cephalon concluding that the room temperature was warming up the perfusate. A satisfactory solution for this has yet to be found.

At 00:45 hrs, salt was added to the chiller to lower its temperature to below 0 °C. Bag #8 was flowing. The system pressure was 110 mmHg, and the refractive index was 33.3 Brix. The left jugular vein temperature was 4.1 °C, and the right jugular vein temperature was 7.0 °C. The temperature of the perfusate was 2.5 °C. Opening the recirculating clamp on the perfusate caused the temperature to drop. This told the team what temperature the heat exchanger was capable of supplying versus what the temperature was that was being observed in the patient.

At 01:03 hrs, the refractive index was 40.4 Brix, and Bag #8 was halfway complete. The left jugular vein temperature was 3.9 °C, the right jugular vein was 6.8 °C, and the temperature of the perfusate was 1.6 °C. The team tried to get the perfusate below 0 °C but was unsuccessful.

At 01:13 hrs the refractive index was 42.7 Brix, and the system pressure was 112 mmHg. The left jugular vein temperature was 3.8 °C, the right jugular vein temperature was 7.4 °C, and the perfusate temperature was 2.2 °C. The pressure was 316.4 *Hixon units* (93 mmHg)

At 01:23 hrs SG announced that a correction had to be made. He advised that after speaking with AD, they discovered that a thermocouple was not inserted into the right jugular vein; thus, all of the temperature readings for the right jugular vein were incorrect. The team set out to correct the error and provide the proper readings.

Concurrently, the remaining readings were as follows: A refractive index of 52.7 Brix on the left-hand side and 43.5 Brix on the right-hand side. There was a left jugular vein temperature of 3.8 °C, and a perfusate temperature of 2.8 °C. There was no temperature reading available for the right jugular vein. The system pressure was 112 mmHg.

Of note, at 01:26 hrs, while attempting to insert the right jugular vein thermocouple, the left jugular vein thermocouple was momentarily pulled out but was then reinserted immediately. Once reinserted, the thermocouple showed a temperature of 4.8 °C despite previously reading at a lower temperature. At this point, there was no right jugular vein temperature reading.

At 01:29 hrs the right jugular vein thermocouple was completely removed, and the burr hole thermocouple was plugged into slot #2 on the instrument. Previous to this, from the beginning of the procedure the burr hole thermocouple was plugged into slot #1.

Another change was made to the thermocouple leads: The nasopharyngeal and burr hole thermocouples were removed. Then the jugular vein thermocouple leads were plugged in, with the left jugular vein in #1 and the right jugular vein was in #2. The right jugular vein thermocouple was then removed, and the burr hole thermocouple was plugged into #2. The temperature reading was 2.9 °C. There was no nasopharyngeal temperature reading at the time, but the left jugular vein temperature was 4.8 °C, perfusate temperature was 2.5 °C, and burr hole temperature was 2.9 °C.

At 01:46 hrs a visual examination was performed of the burr holes. Normally they are visible right away, but because of the procedure and the position of the cephalon, they were oriented in a downwards position. When lifting the cephalon to examine the burr holes, they appeared flat. There was no extrusion, but there was also no retraction of the brain within the burr hole space.

At the same time, the system pressure was 107 mmHg, perfusate temperature was 2.3 °C, and the left jugular vein temperature was 4.8 °C, although it was moved from its original location when the cephalon was lifted. Burr hole temperature was 2.6 °C, and 308.7 *Hixon units* (85 mmHg).

The last Brix reading was fluctuating. The SPER Scientific refractometer was not providing a good reading. Alcor might have to find a different refractometer or go to an analog refractive unit. It read 52.3 Brix, and next button pressed read 45.7 Brix.

At 01:59 hrs the refractive reading was 52.9 Brix. The left jugular vein temperature was 5.0 °C, but this value may have been inaccurate. The cephalon temperature was 2.7 °C, and perfusate temperature was 2.2 °C. The system pressure was 102 mmHg. The Hixon unit was 304.4 (80 mmHg)

The temperature of the salted ice water coming out of the heat exchanger was -2.4 °C. (*time not noted*)

The temperature of the salted ice water coming from the heat exchanger was -2.2 °C (*time not noted*)

At 02:24 hrs the perfusate was completed. Cleanup was underway, and the cephalon was transferred into the cooldown transport case with dry ice.

## 7. Shipping

The team departed with their equipment and with Patient A-1624's cephalon in the customized cooldown transport case. They boarded the plane at 11:12 hrs MST. While they were en route, Alcor acquired 18 lbs of dry ice in preparation for the patient's arrival. The aircraft landed at Scottsdale Airport and unloaded without incident at 17:45 hrs. By 17:50 hrs they arrived at Alcor.

## 8. Cooling to Liquid Nitrogen

The patient's cephalon was unwrapped, and an eye screw was placed at 18:00 hrs. By 18:14 hrs, the cooldown was initiated.

Per HH: No isotherm was apparent in the dry ice transport cooldown data, but cooling was hampered by the patient's cephalon being wrapped in a towel. There seemed to be substantial cryoprotection.

## 9. Timelines

*\*Times are standardized to MST/ Arizona time per protocol*

~1993 James Baglivo won the *Omni Magazine Immortality Prize*, which was a \$120,000 life insurance policy, paid for by Alcor to fund a cryopreservation.

18-Jan-1996 Mr. Baglivo finalized his membership arrangements with Alcor and then ceased responding to any communication attempts by Alcor.

### 24-Aug-2015

~19:00 hrs James Baglivo, patient A-1624, collapsed in a bar, experienced cardiac arrest, was resuscitated and transported to the hospital by paramedics.

~22:00 hrs The patient experienced a second cardiac arrest, in the hospital. He was placed on a ventilator.

### 25-Aug-2015

02:55 hrs The patient was taken off of the ventilator, and then immediately experienced his third and final cardiac arrest. He was pronounced legally deceased.

05:03 hrs Alcor received two notifications via TeleMed of the patient's legal death; one from the organ procurement service and the other from the patient's mother.

05:19 hrs TeleMed called again to verify that the original text messages were received.

05:29 hrs AD spoke with the Medical Examiner assigned to the patient.

05:59 hrs AD advised that the ME was amenable, but needed more information. AD then went to the Alcor facility.

09:15 hrs Alcor received permission from the ME to proceed. The ME's investigation consisted of a body surface inspection and drug screen.

11:58 hrs The team was cleared to leave; the ME, hospital, mortician and aircraft were ready.

15:00 hrs The team departed Alcor for Phoenix Sky Harbor (PHX) airport.

22:43 hrs The team arrived at the mortuary and the patient was present.

- 23:10 hrs AD raised the carotids.
- 23:13 hrs The burr holes were drilled.
- 23:29 hrs Began logging.

**26-Aug-2015**

- 00:02 hrs Cephalic isolation was performed; the team was working to clamp off the second vertebral artery. Perfusion was initiated.
- 00:10 hrs A thermocouple (TC) was placed in the left jugular vein.
- 00:20 hrs Bag #4 completed.
- 00:37 hrs Bag #7 initiated.
- 00:44 hrs Bag #8 initiated.
- 01:46 hrs Burr holes were examined. No retraction of neural tissue was visible.
- 01:59 hrs Above desired terminal concentration.
- 02:24 hrs Perfusion completed.
- 10:38 hrs As reported by SG, the cephalon was significantly swollen with a temperature just below 0 °C. He surrounded the cephalon with dry ice for the return trip to Alcor.
- 11:12 hrs The team was ready to board the plane.
- 13:18 hrs Alcor acquired 18 lbs of dry ice in preparation for the patient's arrival.
- 17:45 hrs The aircraft landed at Scottsdale Airport and unloaded.
- 17:50 hrs The team and the patient arrived at Alcor.
- 18:00 hrs The patient was unwrapped. The eye screw was placed.
- 18:14 hrs Cooldown was initiated.

**Cooldown:** No isotherm apparent in the dry ice transport cooldown, but cooling was hampered by the patient's cephalon being wrapped in a towel. There seemed to be substantial cryoprotection.

**CT Results: No shrinkage; erratic and incomplete cryoprotection.****Times:**

*\* Times are expressed in the number of hours and minutes as shown on this list, and they are not to be added together.*

(hh:mm)

~08:00	From first cardiac arrest to legal pronouncement.
~02:00	From pronouncement of legal death to Alcor receiving notification.
~04:10	From notification to release of the patient by Medical Examiner.
~10:30	From notification to when the team boarded the aircraft in Scottsdale, AZ.
07:13	From aircraft boarding to arrival at the mortuary, including refueling stop.
01:20	From arrival at the mortuary to the onset of perfusion, including performing burr holes and cephalic isolation.
02:22	From the start of perfusion to dry ice cooling.
~09:00	From dry ice cooling to departure.
06:15	Return flight, including refueling stop.
00:30	Meeting at aircraft to the beginning of cooldown.
~29:00	First cardiac arrest to the beginning of the ramp.
~47:00	First cardiac arrest to the beginning of cooldown.

**Perfusates used:**

Field neuro step ramp; 1x 2 L of B1  
 Ramp 1-8, 2x M22x1.08 B1 - 13.8 L  
 M22x1.25 in B1 carrier solution- 7.65 L

**10. Issues & Actions**

Issue: As per the Cooldown Coordinator, no isotherm was apparent in the dry ice transport cooldown, but cooling was hampered by the patient's cephalon being wrapped in a towel. There seemed to be substantial cryoprotection.

Corrective Action: Do not cover or wrap the patient's head for transport.

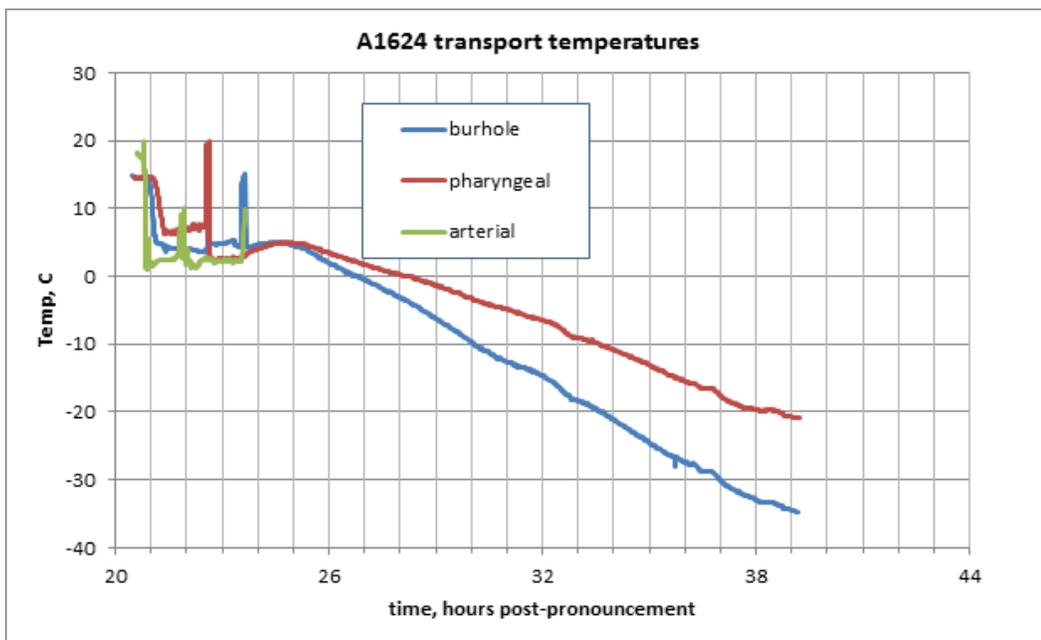
## 11. Post Cryopreservation CT scan link

CT scans were conducted at liquid nitrogen temperature. However, the results are not ready for publication due to the need to complete the calibration of CT density to cryoprotectant concentration for the cryoprotectant solution used for this case. Once the scans have been calibrated appropriately for nM22 (M22 cryoprotectant cryoprotectant mixture prepared in the carrier solution presently favored for neuro cases), a link will be added to the results.

## 12. Graphs

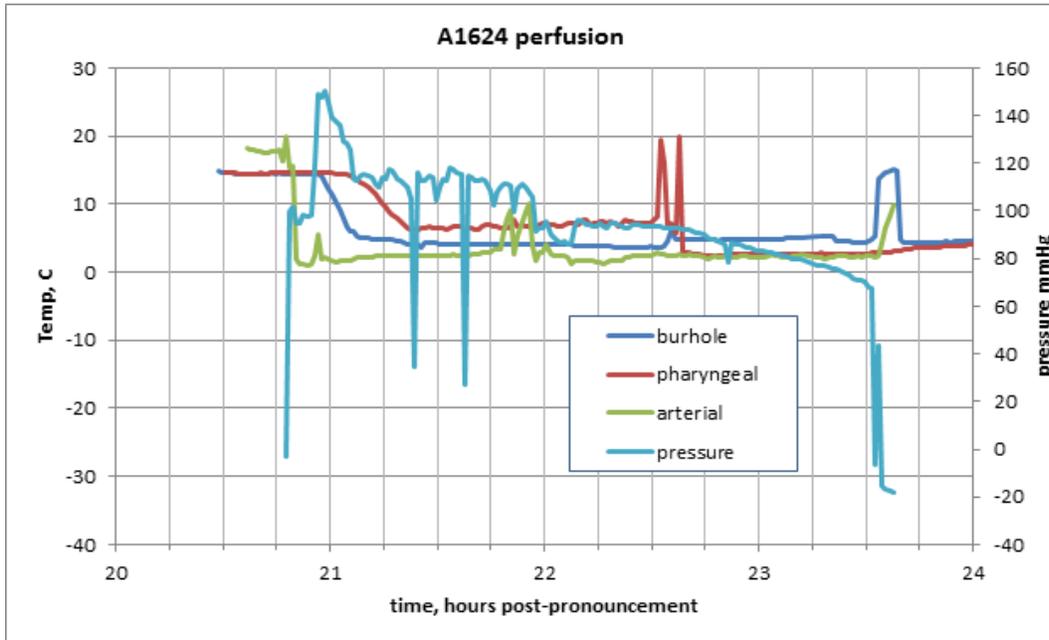
1. *A-1624 Stabilization Temperatures Graph* not available as the patient was not a suitable candidate for stabilization.

2. *A-1624 Transport Temperatures*

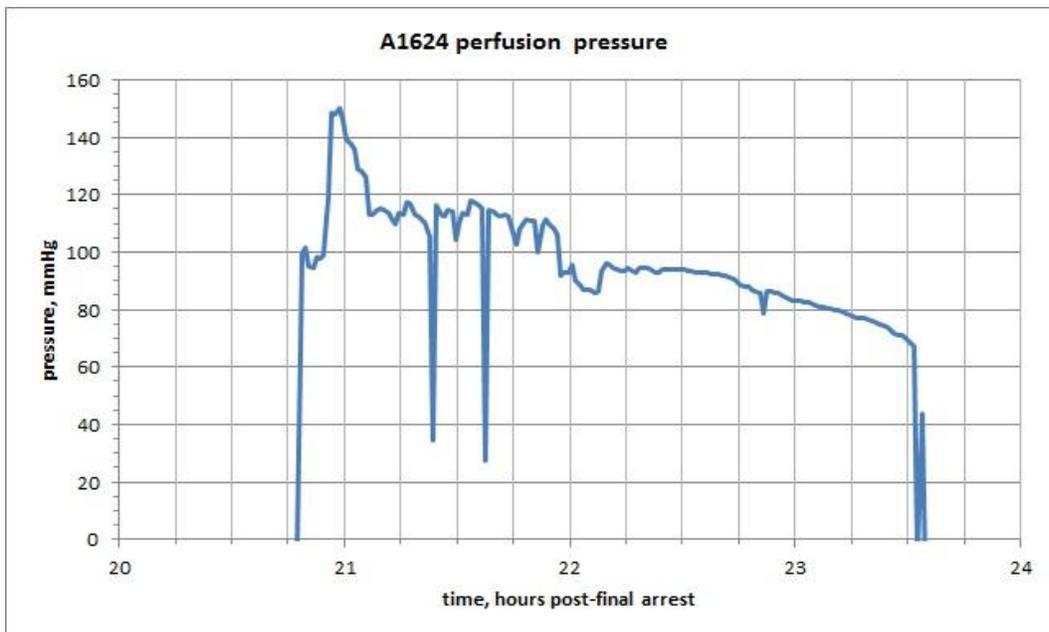


3. *A-1624 Cryoprotectant Perfusion Concentration Graph* not available as patient received step ramp perfusion.

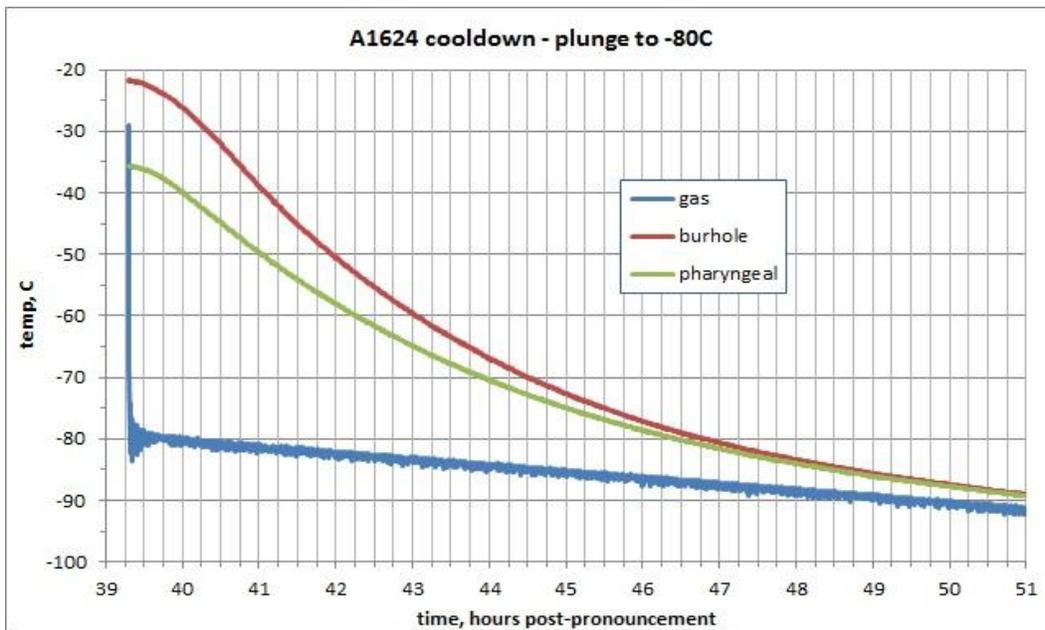
4. A-1624 Cryoprotectant Perfusion Temperatures and Pressure



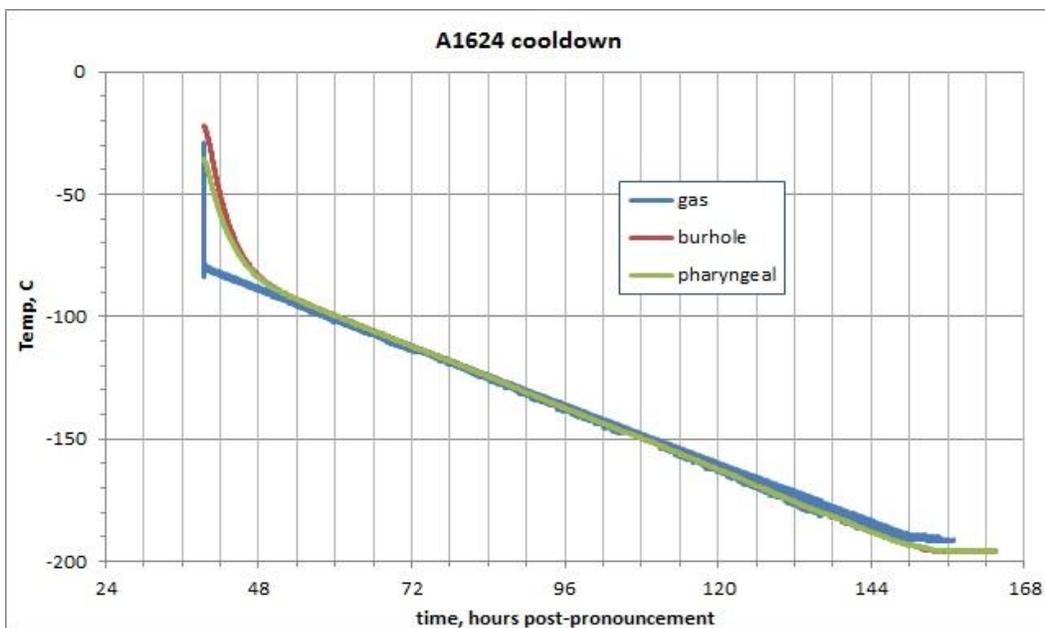
5. A-1624 Perfusion Pressure: Flow Not Provided



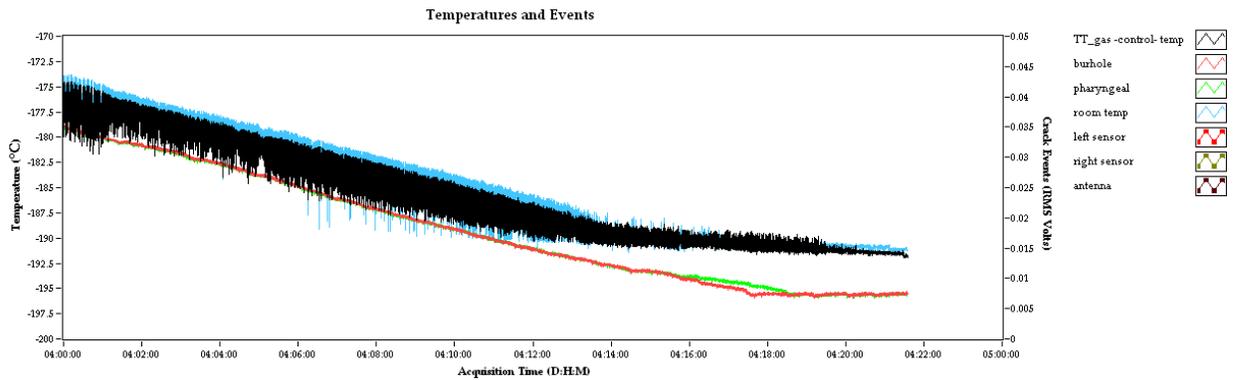
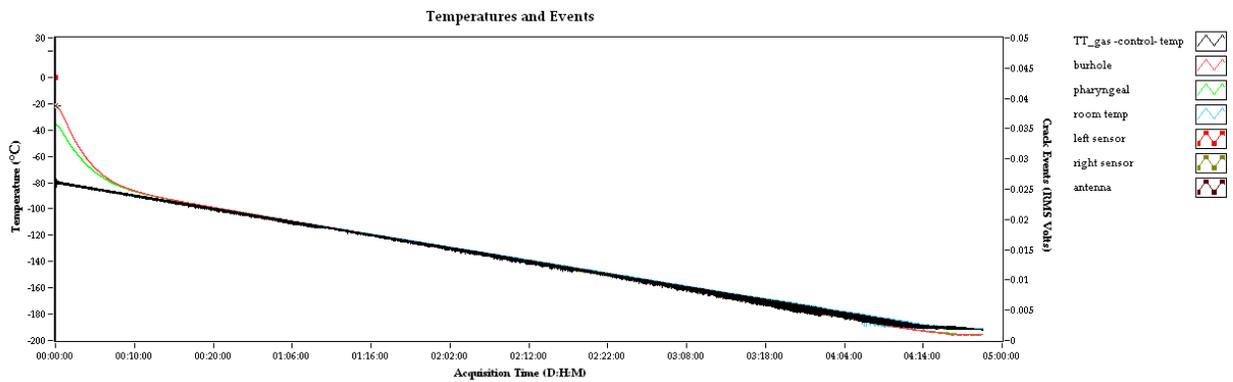
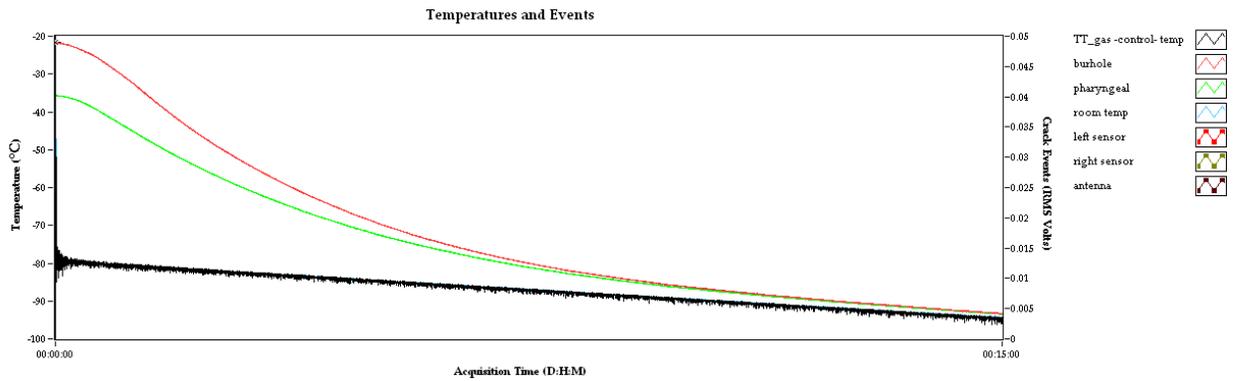
### 6. A-1624 Cryogenic Cooling Temperatures



### 7. Final Cooling Temperatures



### A-1624 Additional Data



--End of report--