

Alcor A-2998
Meihuei Kao



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1. Overview

A board member of Alcor Life Extension Foundation (Alcor) called into the facility on Sunday, February 19, 2017, to notify the team of an urgent matter. They had received a call from an attorney who was trying to help his client's mother, Meihuei, make arrangements for cryopreservation. Josh Lado, Alcor's Medical Response Director (JL) reached out to the attorney and the family members of this potential member. While JL was speaking with the family of the intended member, they reported that she experienced terminal arrest and was declared legally dead as a result of renal failure. The patient was immediately moved to the hospital's morgue after receiving heparin and CPS, and then being covered with water ice to begin lowering her core temperature.

The patient was covered with dry ice on Monday, February 20, 2017, at approximately 20:30 hrs by the family. She was transported from a hospital in Tijuana, Mexico to a funeral home in San Diego, California. Alcor personnel met her at the San Diego funeral home and transported her to Scottsdale, Arizona on Wednesday, February 22, 2017, by land vehicle.

Meihuei was transferred into liquid nitrogen (LN₂) vapor cooldown on Friday, February 24, 2017. Cooldown was completed on Tuesday, February 28, 2017, and the patient remains cryopreserved in LN₂ at this time as a *whole body* patient. No audio or video recordings were made throughout any part of this case.

2. Personnel

Josh Lado, Alcor Director of Medical Response (JL).

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

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

Max More, Ph.D., Alcor CEO, Direction and case oversight (MM).

3. Pre-Deployment

JL received a phone call from a member of Alcor's Board of Directors on Sunday, February 19, 2017, at 18:34 hrs. They had received a phone call from a family attorney advising that his client wanted to sign his mother up to be cryopreserved. JL contacted the potential member's son, who stated that his mother was in Tijuana, Mexico receiving alternative medical treatment for renal failure. The patient was not doing well and was very close to death.

JL informed the son that Alcor's policy stipulates that Alcor does not normally accept cryonics arrangements made by third parties other than the person to be cryopreserved, and that a final decision would have to be reached by Alcor's Board of Directors (the Board) before anything could proceed.

JL notified the Board and MM by e-mail, providing all of the information that was available. The Board was concerned about the circumstances and wanted more information. In cases in which an adult to be cryopreserved is not signing up themselves, factors considered by the Board before accepting such cases include evidence of desire to be cryopreserved, support of all family members, informed consent, whether there will be financial hardship, and biological circumstances. JL obtained and relayed the answers that the Board requested, after which, the Board agreed to accept Meihuei Kao as a patient.

4. Stabilization and Transport

The patient's legal pronouncement of death was at 16:43 hrs Pacific Standard Time (PST) locally, which was 17:43 hrs Mountain Standard Time (MST), based on what was written on the patient's death certificate. The family of the patient reported to JL that the patient had experienced terminal arrest at 18:57 hrs MST. The difference between these times was determined to be due to hospital personnel recording a different time. When contacted, the hospital did not want correct this time. The attending physician agreed to administer 100,000 units of Heparin to the patient and provide five minutes of chest compressions to circulate it effectively. The patient was then immediately moved to the hospital's morgue. The cooler temperature was held at 3 °C with water ice covering her head and torso.

The family was able to secure dry ice (solid CO₂) the following evening. The patient was placed on dry ice on Monday, February 20, 2017, at approximately 20:30 hrs. The family was able to maintain an adequate supply of dry ice throughout the following day until the patient was transported to San Diego. JL also had 300 lbs of dry ice waiting at the San Diego Funeral Home for the patient's arrival.

The patient's son asked if Alcor team members would be able to transport the patient by land vehicle from San Diego, California to Alcor in one day. JL stated it would be too big of a safety risk to drive the entire route in one day. JL and the patient's son agreed that flying JL and SG to San Diego would then enable them to return by land, with the patient, safely and expediently. The patient's son arranged and paid for the flight.

JL and SG flew to San Diego on Wednesday, February 22, 2017, and arrived at the funeral home at 17:46 hrs. They obtained custody of the patient and transported her by land to Alcor, arriving at 00:25 hrs on Thursday, February 23, 2017. SG opened the casket and visually inspected the patient. He noted that dry ice was still present, covering the patient's entire body. Additional dry ice was added around the patient at this time. No temperature readings were taken.

5. Cryoprotective Surgery

No surgery or cryoprotective perfusion was performed. Cryoprotection was not possible due to the patient being on dry ice when received. The patient was placed directly into LN₂ vapor cooldown when she arrived at Alcor.

6. Cooling to Liquid Nitrogen

Meihuei Kao was placed into LN₂ cooldown on Friday, February 24, 2017. Cooldown was completed on Tuesday, February 28, 2017.

7. Timelines

**Note: All times are expressed in Mountain Standard Time (MST,) unless otherwise noted.*

Sunday, February 19, 2017

- 17:43 hrs The patient was pronounced legally dead according to the death certificate.
- 18:34 hrs JL was called by a member of Alcor's Board of Directors. An attorney representing an individual whose mother was actively dying made contact with them earlier in the evening regarding having her cryopreserved. The attorney stated that his client's mother was actively dying.
- 18:41 hrs JL called the attorney to obtain the contact information of the family.
- 18:45 hrs JL called the board member back in an attempt to gain additional information from their initial phone call.
- 18:48 hrs JL called the patient's son. The son informed JL that the patient was in Tijuana, Mexico. She was very close to death, and he was very adamant about his and his family's commitment to cryonics. The patient was in renal failure, and the doctors did not think she would make it through the night. JL advised the patient's son that the Alcor Board of Directors would need to approve the son's request for the patient to become a third party sign-up.
- 18:59 hrs JL called MM to update him on the case.
- 19:02 hrs The patient's son called JL. He stated that the patient was declared legally deceased at 18:57 hrs. JL then spoke with the patient's attending physician and instructed him to cool the patient with regular ice and keep her as cool as possible. The physician stated that the hospital morgue had a cooler and would be set to 3°C, and agreed to administer 100,000 units of heparin and circulate it with five minutes of CPS. JL informed the patient's son that even if the Board were to approve this case, no standby would be done, no medications would be required, and this would be a straight freeze procedure.
- 20:16 hrs An e-mail was sent to the Board from JL asking if Alcor would be accepting this patient.

Monday, February 20, 2017

- 03:02 hrs MM e-mailed. He stated that acceptance of this case seemed unlikely. He asked for more information about the case and the patient's family.
- 06:34 hrs MM called JL to update him on the case.
- 09:00 hrs The Board collectively confirmed that they were reluctant to accept this patient without further information. Individual board members weighed in on this decision.
- 11:20 hrs The family's attorney called JL to discuss the details of the case. Message left.
- 11:52 hrs JL called Alcor's funeral home for advice about the transportation of human remains across the Mexican border.
- 12:29 hrs The family's attorney called JL to discuss the status of the case.
- 13:19 hrs The Board e-mailed JL, stating that they would agree to accept this patient on the condition that funding was confirmed, affidavits were signed by the family, and all of the documentation was completed. It was not yet the final decision as not all of the board members had finished deliberating on the matter.
- 14:57 hrs JL contacted the San Diego funeral home to request that they transport the patient across the international border from Tijuana, Mexico to San Diego, California, and hold the patient until Alcor was to arrive to transport the patient back to Scottsdale, AZ.
- 14:59 hrs JL called the funeral home in Tijuana to provide them with an update.
- 15:01 hrs An e-mail was sent to the family's lawyer containing a link to the membership sign-up form.
- 16:23 hrs MM e-mailed JL stating that he would cautiously accept this patient if the Board was in support of the family's petition.
- 16:27 hrs MM called JL. He stated that the case was accepted contingent on all of the completed paperwork and money being transferred successfully.
- 17:17 hrs JL called the patient's son to notify him of the terms by which his mother would be accepted as a patient.
- 19:07 hrs JL e-mailed the family's lawyer all of the contracts, wire transfer information, and affidavits to sign.

- 20:30 hrs The patient's family purchased 150 lbs of dry ice and used it to completely cover the patient per Alcor's instructions.
- 21:02 hrs The family's attorney e-mailed JL stating that he did not receive the contracts and the wire transfer information.

Tuesday, February 21, 2017

- 06:55 hrs JL resent the e-mail to the family's attorney with all of the contracts, wire transfer information, and the affidavits to sign.
- 08:15 hrs The family's attorney called JL, advising him that he still did not receive the e-mail containing the contracts.
- 09:11 hrs JL called the family's attorney to confirm that he received the documents. The attorney stated he did receive it, and the patient's son would be sending the member packet soon.
- 09:38 hrs The family's attorney e-mailed JL. The member packet was attached to the message, and the family was still working on the affidavit and the contract.
- 10:34 hrs JL called the San Diego funeral home to advise them that 300 lbs of dry would be delivered later the same day.
- 10:41 hrs JL called the dry ice company. He purchased 300 pounds of dry ice which was to be delivered to the San Diego funeral home.
- 10:50 hrs JL called the same funeral home. He advised them that the dry ice would be delivered within the next three hours.
- 14:20 hrs That funeral home then texted JL to notify him that the family still had the patient in Tijuana for DNA testing. The family did not notify Alcor about any testing before this.
- 14:26 hrs JL called MM to update him on the latest case developments. It was decided by MM and JL that if the patient was not moved to San Diego by the end of that day and put on dry ice, and if not all of the paperwork was finished, that Alcor would terminate the case. This was due to concerns over delays and difficulties communicating with the family, and not yet having the signed contracts in hand.
- 14:34 hrs JL called the patient's son. There was no answer.
- 14:35 hrs JL called the patient's son again. There was no answer. A message was left to call JL back.

- 14:36 hrs JL called the family's attorney. There was no answer. The attorney was then sent a text message to call JL back as soon as he could.
- 15:19 hrs JL sent an e-mail to the family's attorney to inform them that if the patient was not transported, on dry ice, with all of the paperwork completed, that Alcor would have to terminate this case.
- 15:25 hrs The family's attorney called JL to assure him that he would get more information and then call JL back in short order.
- 15:30 hrs The family's attorney called JL to say that the patient was placed on dry ice the previous evening at about 20:30 hrs. He went on to state that transport was delayed that day due to the acquisition of DNA samples, and the fact that more dry ice was needed before departure. The family's attorney stated that he understood Alcor's position and would work to get all of the paperwork done that day.
- 18:18 hrs JL e-mailed the family's attorney the wire transfer data and the affidavit forms again. The file containing the contracts was found to be corrupt in this e-mail, so it was to be resent again at a later time.
- 18:30 hrs JL reattempted the e-mail to the family's attorney.
- 22:54 hrs The family's attorney sent a text message to JL, stating that the paperwork was being signed and would soon be sent.

Wednesday, February 22, 2017

- 01:16 hrs The family's attorney sent an e-mail stating that the contracts and the husband's affidavit had been sent.
- 05:32 hrs MM e-mailed JL, asking for an update.
- 05:38 hrs JL called MM to provide him with an update on the case.
- 08:44 hrs The family's attorney called JL to confirm that the affidavit and the contract had been received.
- 09:04 hrs The family's attorney e-mailed JL. The son's affidavit was received.
- 09:51 hrs Alcor's funeral home called JL to ask him to confirm that the death certificate was written in English.
- 10:03 hrs JL sent a text message to the funeral home in San Diego ask if the patient's death certificate was written in English or Spanish.

- 10:08 hrs The San Diego funeral home sent a text message to JL informing him that the death certificate was written in Spanish but had an English translation.
- 10:31 hrs The San Diego funeral home notified JL by e-mail that they had sent the death certificate.
- 10:43 hrs JL informed Alcor's funeral home that the death certificate had been sent.
- 10:55 hrs Alcor's funeral home called JL to advise him that the wrong final resting place was listed on the death certificate.
- 10:59 hrs JL called the Mexican funeral home about this. He was told that the patient's family had asked not to have Alcor listed as the patient's final resting place on her death certificate.
- 11:01 hrs JL advised Alcor's funeral home of this. An addendum was to be filed to change this in Arizona.
- 11:08 hrs JL then called the San Diego funeral home to request a transit permit for the patient from California.
- 11:16 hrs The family's attorney e-mailed JL. The daughter's affidavit was received. A wire transfer was made which was awaiting confirmation from the bank.
- 11:26 hrs The family's attorney sent proof of the wire transfer via e-mail to JL.
- 11:28 hrs The wire transfer was confirmed. On a three-way call between the son, his attorney, and JL, they asked if there was any way Alcor could complete the entire drive that same day. JL suggested that for the trip to be same-day, he and SG could fly out and immediately drive back to Scottsdale with the patient. The patient's son agreed to this and covered the cost of this request, reserving the plane tickets and a van which would be waiting for JL and SG to arrive.
- 11:51 hrs JL called the San Diego funeral home. They agreed to stay late that day and wait for the arrival of JL and SG, who would take custody of the patient.
- 12:18 hrs Flight information was sent to JL. Their plane would depart at 15:00 hrs MST.
- 12:43 hrs JL and SG left for Phoenix Sky Harbor airport.
- 13:12 hrs JL and Steve arrived at Phoenix Sky Harbor airport.
- 14:42 hrs The family's attorney called JL to confirm that JL and SG reached the airport without delay.

- 15:00 hrs The plane departed Phoenix Sky Harbor airport, carrying JL and SG. They did not need to transport equipment due to the nature of the case being a straight-freeze procedure.
- 16:15 hrs The airplane landed in San Diego, California.
- 16:17 hrs JL called Alcor's Finance Director to confirm that the wire transfer had arrived in Alcor's account.
- 16:19 hrs JL e-mailed MM to update him on the case and financial details.
- 17:24 hrs JL and SG rented a van and departed for the funeral home in San Diego.
- 17:46 hrs JL and SG arrived at the funeral home in San Diego.
- 17:50 hrs The patient's casket was opened to inspect the patient visually. There was dry ice still covering her entire body.
- 17:55 hrs The patient was placed into the van, assisted by SG, JL and two people from the funeral home.
- 18:08 hrs JL and SG left the funeral home in San Diego, carrying the patient and heading for Alcor. No temperature readings were taken as the patient had been on dry ice for two days already.
- 21:52 hrs MM sent an e-mail to the Board of Directors to update them about the case.

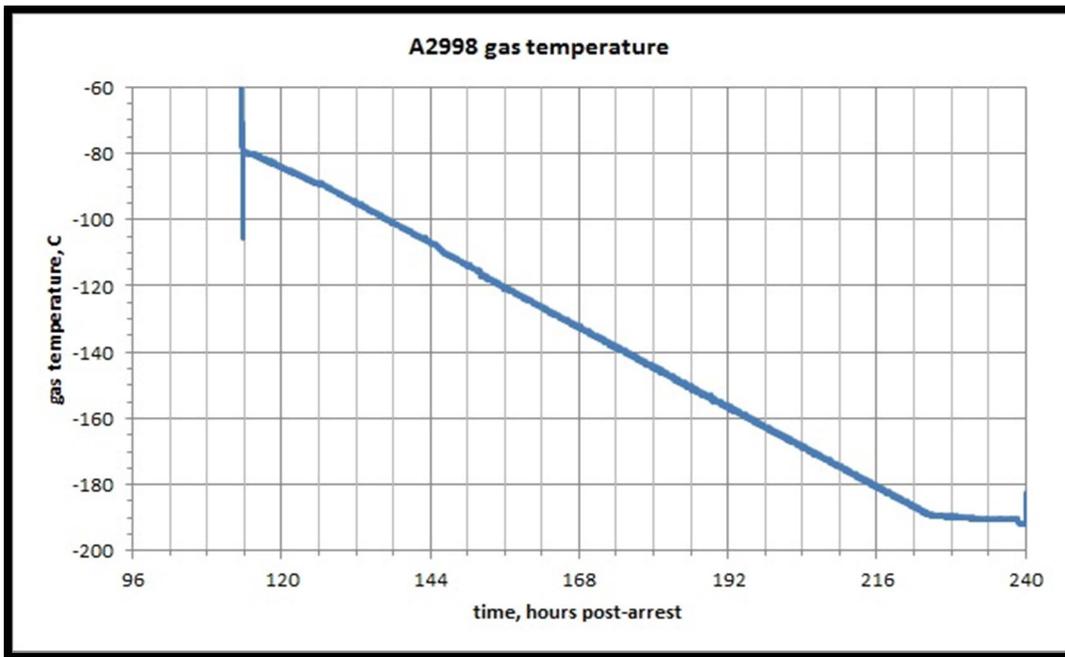
Thursday, February 23, 2017

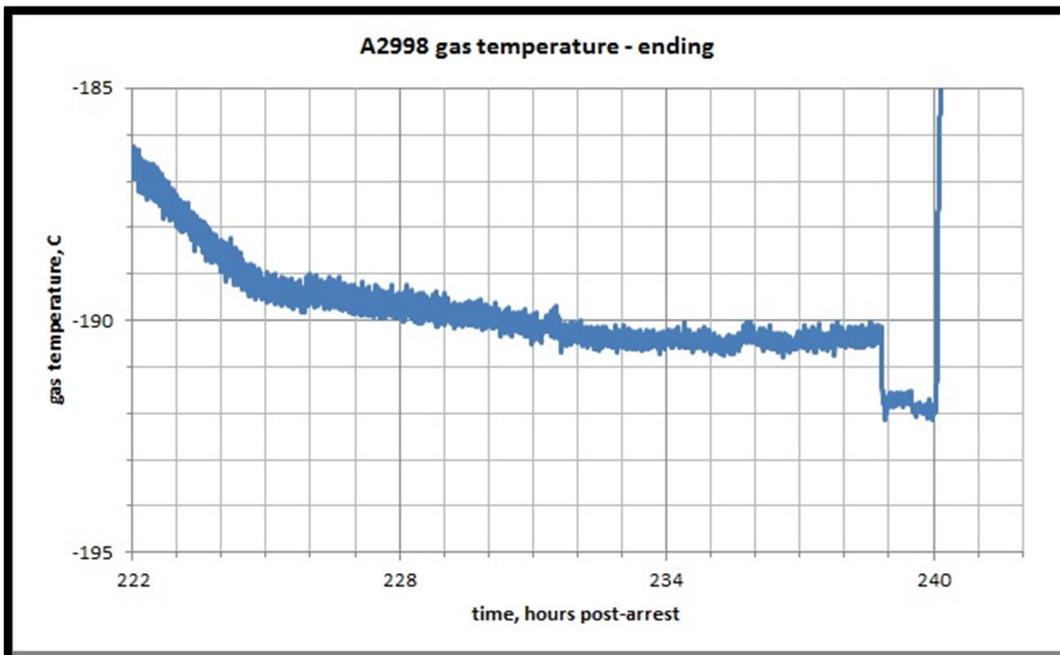
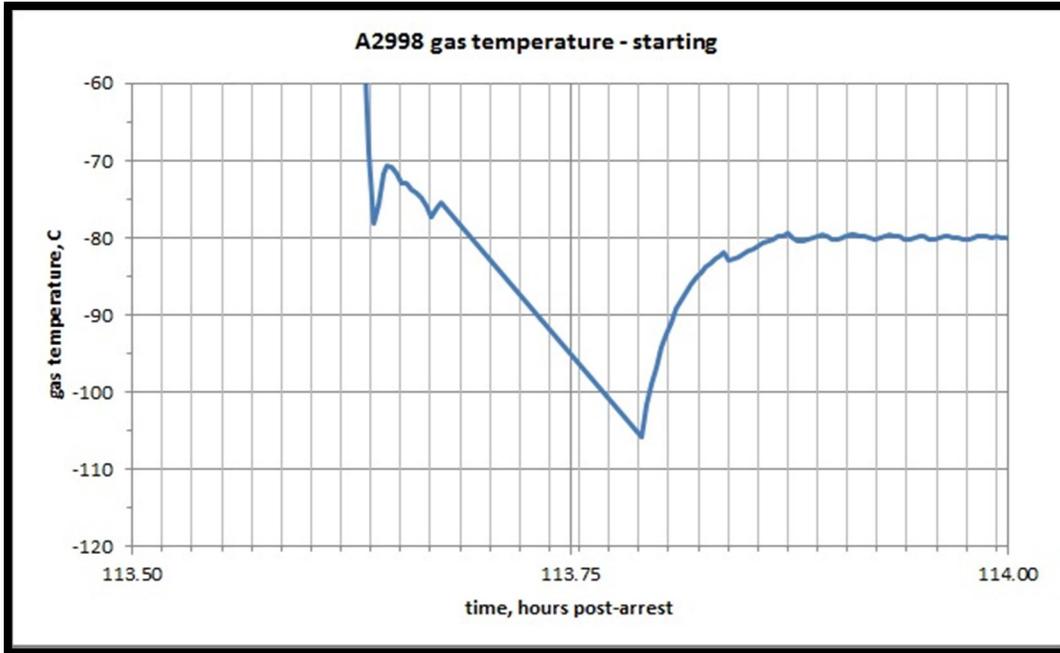
- 00:25 hrs JL and SG arrived at Alcor with the patient.
- 00:37 hrs The patient was placed onto the funeral cart and wheeled into the patient care bay.
- 00:40 hrs The casket was opened, dry ice was still present and covering the patient's entire body. Twenty pounds of dry ice were added to the container.
- 06:09 hrs JL returned the rental car.
- 12:00 hrs A Buddhist service was conducted for Meihuei Kao, including a *family spirit communication service* between the family and the patient.

8. Issues & Actions

None

9. Graphs





--End of report--