CRYONICS UK (CUK) TRAINING SESSION

By Ben Best

On Saturday, July 24 and Sunday, July 25 I participated in a Cryonics UK (CUK) (http://www.cryonics-uk.com/) training at the home of Tim Gibson in Sheffield, England. Altogether there were about 25 participants. I will not mention participant names other than those who are very public about their cryonics activities, namely Tim Gibson, David Styles, and Alan & Sylvia Sinclair. At least four of the participants were from other European countries.

The training was led by Tim Gibson (an Alcor Member) and David Styles (a CI Member). There are many Members of both CI and Alcor in CUK. Alcor seems resigned to the fact that Alcor equipment possessed by CUK can be used for either CI or Alcor patients. My selling of CI vitrification solutions to CUK was an arms-length transaction -- CUK owns the solutions to use as they please.

After all the participants introduced themselves, there was a business meeting run by David Styles. Tim said Alcor pays generously for time and supplies that CUK might use for an Alcor Member. I assume this is because UK Alcor Members are paying for standby services that they would not otherwise receive. Concerning CI, Local Help Rider money is only intended for post-mortem costs, not for standby expenses, so I am unclear about how the standby portion of CUK activities are expected to be funded.

CUK's AMBULANCE

The post-mortem part -- which would include vitrification perfusion and packing in dry ice-- could be covered by the Local Help Rider. CI Members wishing CUK services would have to provide generous funding for the Local Help Rider (CUK should be consulted for this, not CI -- and prices may easily increase in time.)

CUK is a mutual-aid society that funds itself by dues payments from Members. The group is run by a committee of 5 or 6 which includes Tim, David, and Alan. A cryonics patient in the UK who is wanting CUK services, but who is not a CUK Member would be expected to pay a hefty premium, which would include about 200 pounds per day per team member participating. CUK Members who attend at least two trainings per year get a discount on their subscription fees:
15 pounds individual monthly if attend trainings
20 pounds individual monthly if do not attend trainings
25 pounds household monthly if at least one attends trainings
30 pounds household monthly if no one attends trainings

There was a discussion of special clothing, lanyards and ID badges for CUK team members participating in a standby. There was concern that the practice might appear to be a deceptive attempt to look like hospital employees. But there is something to be said for identifying the purpose, group-affiliation, training and organization of the team.

Those who disparage cryonics believe that there can be no such thing as a cryonics professional, but skills, knowledge and training of cryonicists should not be discounted by cryonicists. I think it is reasonable and worthwhile to make cryonics team members readily distinguishable, so long as there is no implication of an attempt to impersonate other professionals.

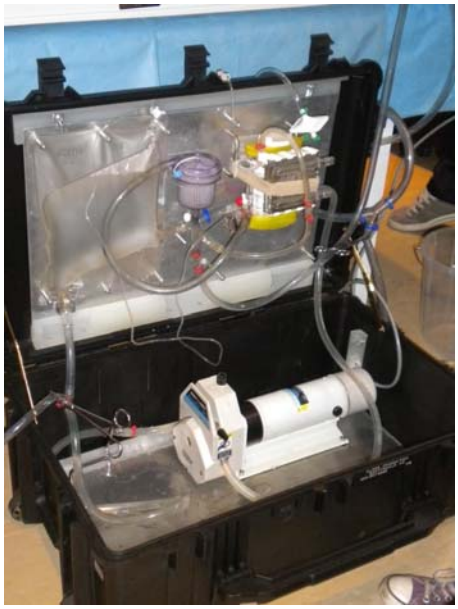
One of the CUK Members is a chemist, who was volunteering to make CI vitrification solutions. He wanted an expensive fume hood, however. I commented that I don't use a fume hood when mixing-up solutions of DMSO and ethylene glycol. Arrangements were made to construct a fume hood rather than to buy a commercial one.

Tim gave a demonstration of Combitube insertion. A Combitube is used to both ensure an open airway and to insert antacid into the stomach. The Combitube has two pipes, one of which goes straight to the end and one of which has holes in the side. If the Combitube is inserted into the esophagus, antacid can be delivered to the tube going to the end, and ventilations can be delivered to the tube with holes in the side. If the Combitube is inserted into the trachea, the reverse applies. It is difficult to insert the Combitube into the trachea, although that is the preferred insertion. The group members practiced trying to insert the Combitube into the trachea of a dummy, and then tested to see whether it went into the trachea or into the esophagus.

Opening the airway is useful for giving ventilations in all cases, but putting antacid into the stomach is only of value for a patient that is to be given whole body perfusion. Acid in the stomach of a cryonics patient can eat through the walls and break blood vessels. In such cases the perfusion solution ends up in the stomach rather than elsewhere in the body. In several instances body perfusion has been halted in CI patients because stomach swelling was making it obvious where all the perfusate was going.

My main concern about the value of local volunteer groups has been the lack of reliability and availability of volunteers for a standby -- especially an extended one. At my request, members of the group stated their capabilities of making themselves

available for a standby on short notice, as well as the amount of time they could be expected to commit to remaining on the standby. I was amazed that a significant portion of the group could respond on short notice and devote considerable time for a standby. Based on these testimonies, there should be no staffing problems for a CUK standby. CUK has a well-equipped van/ambulance that is parked on Tim Gibson's property. The van has a Portable Ice Bath (PIB), battery power, freezer, air compressor, tanks of compressed air and oxygen, lift gate, etc. Tim showed the group the equipment and supplies in his garage, and then demonstrated the many capabilities of the ambulance. A recent decision had been made not to administer oxygen in cases for which CardioPulmonary Support (CPS) is not begun more than ten minutes after cardiac arrest -- and it was expected this would apply to virtually all cases insofar as speedy pronouncement is rarely expected. (In the UK, only a physician can pronounce death.) Tim demonstrated the use of an air compressor to power the Michigan Instruments Thumper. Team members practiced positioning and using the thumper on an above-the-waist rubber mannequin sitting in the PIB.



The next morning, David Styles demonstrated and trained the team members in the use of the ATP (Air Transportable Perfusion system) in Tim's basement. Members practiced adjusting the clamps and running the pump, both for priming and for washout. I asked one person to trace with his finger and describe the flow of fluid through the circuit. I believe that this is a useful exercise for helping people to understand the ATP. Now that CUK has access to vitrification solution, however, the intention is to use the ATP for vitrification perfusion into the carotid arteries, rather than for blood washout through the femorals. I showed them the changes that would be required to use the ATP for open circuit perfusion rather than closed circuit washout. I urged them to put a pressure guage in the circuit. (They had one in stock, but were saving it for a case -- out of concern about contaminating it during practice.) Members practiced the clamping required for the new set-up.

David and Tim had rigged a system of cascading reservoirs for adding ethylene glycol (10% and 30%) and 70% VM-1 solution. Allowing the solutions to sit in the reservoirs would be a way of preventing air bubbles. I told them that they could use a funnel in one reservoir to reduce air bubbles, and that the solutions would likely get too warm sitting in the reservoir

(Cryoprotectant toxicity increases as temperature rises, and falls as temperature drops.) VM-1 is generally stored in a freezer (about -20oC). I told them that their filter would catch air bubbles if any occur. They were claiming that the filter was 0.2 microns, but I can't believe that a decent flow rate could be achieved at such fine filtration. We could not see the level of filtration marked on the filter. They agreed to use a single reservoir. I nonetheless complimented them on the ingenuity of the cascading reservoir system. Team members carried a large, heavy plastic mannequin named "Bob" from the garage to Tim's basement as he lay on a tarp with handles. Tim used the mannequin's chest to demonstrate intraosseous infusion. CUK uses the FAST1 system of intraosseous infusion rather than the EZ-IO drill system that is used by Suspended Animation, Inc.

After team members had practiced FAST1 on Bob, Tim went over the meds (medications). At my suggestion, there was a

practice scenario at the end of the day (as Aschwin de Wolf had suggested for the training we gave at CI in May 2008). David, Tim and I observed without participating. "Bob" was assumed to have just been pronounced dead in Tim's basement. Team members carried Bob upstairs in the tarp and carried him to the back of the ambulance. The PIB was removed, Bob was placed in the PIB, and then the PIB was moved to the garage. Bags were filled with ice from the ice-making machine, and water was added to the PIB. The sump pump was started to squirt water on the patient. An IV line was set up to be administered to Bob through FAST1. Unfortunately, Bob is too hard for the thumper to be used on him.

I had suggested that emphasis be placed on cooling and CPS rather than meds insofar as this is what provides most of the benefit. I think that they should have used the rubber mannequin that would have allowed them to use the thumper. And I think ice should have been added directly to the PIB without remaining in bags -- except to pack around the head. Tim observed that by plugging the compressor into the garage outlet, the PIB and patient could not be moved back to the ambulance without stopping the thumper. Tim also said that the group should have appointed a leader. Mistakes are made, but learning from them is the purpose of such scenarios.

Lunches and other break-times provided an excellent opportunity for individual and group conversations. Concerning the latter, I was able to answer many questions about CI and Alcor policies and procedures about which the Europeans were unclear. One of the CUK Members is a professional technical writer. The man has composed documentation of CUK equipment and procedures that is extraordinarily good. I reviewed his document, correcting errors and suggesting changes. I hope the document becomes available online in the near future.

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As another display of compulsive documentation, I will say a few words about my visit to John & Chrissie de Rivaz in Cornwall during my time in England. It was a 24-hour social rest & recuperation interlude between the Cryobiology conference and the London lecture/ Cryonics UK training -- although I did use some of the time to prepare for my lecture.

John de Rivaz has been a very public life extensionist for over two decades -- notably by publishing *LONGEVITY REPORT* (once a mimeographed magazine) since 1987:

http://john.derivaz.com/

http://health.groups.yahoo.com/group/LongevityReport/

http://www.quantium.plus.com/lr/lr.htm

This was perhaps the fourth or fifth time I have visited John in Cornwall (he does not leave Cornwall). For several years until recently, John was a CI Director and Vice-President. He is still moderator of the CI Yahoo Group and he helps me with maintaining the CI website. He is a frequent poster to CryoNet

John's wife Chrissie is also a CI Member and Advisor. I was aware that Chrissie de Rivaz (Chrissie Loveday) is a writer, but I had not appreciated the extent to which she is a full-time novelist until I saw the line of her books on her bookshelf.

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Welcome to my site and thanks for taking the time to look. If you click on the buttons, there is more information about my work and me! Living in inspirational Cornwall is great. From my office I can watch the sea in all it's moods. Makes concentrating difficult at times but I'm so lucky.

She is also a very good cook. The dinner she made for us was a delicious and nutritious vegetarian (for my sake) mixture of nuts and vegetables.

The de Rivaz home sits on the edge of the sea near the south west tip of England. Frequent high winds drive the windmill that supplies much of the electricity for the energy-efficient home. Voltaic solar panels also supply electricity. And solar heating is used for water. Entry and exit is all that is required to turn lights on and off in the bathroom -- no light switch required. I was very impressed by the man-sized Uninterruptible Power Supply John has for his home -- which could supply full power for a day or two. CI could use such a unit -- high winds left CI without power for nearly a day several months ago. The small UPS units that we have are only sufficient to keep the cooling box in operation for 16 hours during a power failure -- and keep the computers powered for a half hour. We have a generator, but it is labor intensive and requires gasoline. John's facility with eBay and the fact that he is a retired electrical engineer has much to do with the home he has created.

Most new CI Members come from the internet, but a couple of John's neighbors have joined as a result of their friendship with John and Chrissie. Unlike the usual situation, the wife rather than the husband is the most enthusiastic about cryonics. She had many questions for me. She had gone through the CI contracts carefully. She stumped me in asking about the difference between parts i and ii of definition b in the Cryonic Suspension Agreement: The best I could answer is that lawyers often say the same thing in different ways to ensure that they have made their point. The couples are planning their own local cryonics support group. I suggested body bags and freezers full of ice. For a hospital death where there is several days in a terminal condition, Cryonics UK would be much superior, however.

They were concerned about the time it would take the ambulance/van to drive from Sheffield. Sudden death happens often, but so does slow death in a hospital.