

Asset Preservation for Cryonicists

by Ben Best

For many people joining a cryonics organization is psychologically comparable to religious salvation through faith. It is as if signing the contracts and arranging funding were guarantees of cardiac arrest being immediately followed by being drawn up into the heaven of the future. But cryonics organizations are not omnipotent gods.

It is a myth that if your heart has stopped for more than six minutes that your brain is hopelessly destroyed. But it is true that every minute over six minutes that you go without blood circulation or cooling increases the amount of damage to your brain. Even if you have received standby, cardiopulmonary support, cooling and blood replacement with organ preservation solution, there is cold ischemic damage that happens during the period of time you are being shipped at ice temperature to the cryonics organization.

Less than half of the cryonicists who have arranged for standby actually receive standby. Thirty percent of deaths are due to cardiovascular disease, and two-thirds of those deaths are sudden. Those who receive standby are most often cancer victims. The amount of damage your brain experiences before you are placed in liquid nitrogen will depend upon how quickly & efficiently you are cooled, the cardiopulmonary support & anti-ischemic treatment you receive, how much cold ischemic time you experience between being cooled to ice temperature and the beginning of perfusion, and upon the toxicity & perfusability of the vitrification solutions used -- among other things.

Few people care to be reanimated into a future in which they are totally without resources. But if your assets make it to the future and you have been too brain damaged -- or are not revived at all -- your assets will do you no good. You need to save your ass as well as your assets. De-nationalization of economies through the internet and political, legal or other upheavals could mean that today's fiat currencies may be of little value in the next century. If the future value of money is to be heavily discounted, the present value of money is very high. For this reason, prudence would dictate that at least 50% of the money available for asset preservation should be devoted to personal survival with a minimum of brain damage.

Your chances of being preserved and revived with a minimum of brain damage isn't simply a function of the current stabilization & cryopreservation technology or the strength of your cryonics organization. Personal preparations made by you can vastly influence the amount of brain damage you suffer before your cryonics organization gets their hands on you. Your chain of survival is no stronger than the weakest link.

Money can be prudently spent to protect health and maximize lifespan. The longer the survival, the better the cryopreservation technology is likely to be when cryopreservation is required.

A freezer full of ice as well as a portable ice bath & thumper in your home and office could mean significantly less brain damage, if you can arrange for speedy pronouncement of death after a sudden cardiac arrest. You don't need an employee or volunteer of a cryonics organization to put you in an ice bath or operate a thumper. A phone list of nearby people who know that they would be generously remunerated if they could respond quickly to place you in an ice bath could be of considerably more value than a distant cryonics team. A truck parked near your home that is fully outfitted with stabilization equipment could mean that your stabilization could proceed while you are being driven to a location where you can be perfused.

Arranging speedy pronouncement of death and devising ways to prevent autopsy from a sudden, out-of-hospital death are prerequisites to any use of equipment. To prevent autopsy it helps to have lawyers and physicians helping in a timely manner. It also helps to live in a state with favorable laws for avoiding autopsy. And it helps to know your local coroner or medical examiner, including knowing his or her attitudes toward autopsy and cryonics. (A recent CI patient was autopsied by a coroner who was contemptuous of cryonics.)

Far too many cryonicists have deanimated unobserved and have not been discovered until hours or days after the fact. Even someone sleeping next to a spouse could deanimate hours before discovery. [Deanimation alarm systems for cryonicists](#) have been anticipated for nearly two decades without much result. A deanimation alarm system for cryonicists should ideally have the following features:

- rapid detection of cessation of vital signs, preferably heartbeat
- a comfortable and convenient vital signs detection device
- a detection device that can trigger calls to multiple phone numbers upon alarm conditions (and possibly send e-mail messages)

- one of the phone numbers is guaranteed to connect to a waiting person who will respond helpfully
- the detection device can be functional at all times, including during a bath or shower
- there are minimal problems with power recharging
- the system is wirelessly operational anywhere in the world
- the detection device includes GPS capability
- GPS information can be included in the phone/e-mail messages or could be determined directly by direct communication of the call center with the detection device
- there are no false alarms, or false alarms are infrequent and easily handled
- the alarm is triggered not only by cardiac arrest, but by a full minute of heartrate below 20 beats per minute so as to anticipate impending deanimation

For over a decade there have been many promising technologies, but there has been too little fulfillment. Money and effort by cryonicists could hasten the time when we have systems suitable for our needs. The closest I have come to fulfillment is the [MyPulse Monitor](#) which succeeds in:

- detecting heartbeat
- phoning numbers when heartbeat stops

but has a number of shortcomings:

- requires wearing an uncomfortable chest strap
- cannot be more than a few hundred feet from a computer that has a land-line connection for phoning
- computer must be on at all times
- repeater must be within 3 feet of chest strap at all times
- must carry repeater which requires daily recharging
- can't take repeater into the shower
- too many false alarms, some due to "blind spots" or disconnections when sleeping on one's side

I thought I was close to acquiring the [Vivago Wellness Watch](#) system, which is already operational in Europe. I was working with an investor to test it here in the United States. The system is based on an extremely sensitive motion detector which can be worn like a wrist watch and which can initiate alarm phone calls through a home base unit in response to a long period of

inactivity. Unfortunately, the Finish company behind Vivago nixed the idea of having the product distributed in the United States.

Other promising technologies which could be adapted by cryonicists willing to spend the money to make this happen include:

- [Exmocare wireless vital signs wristwatch](#) that can detect pulse changes by [infrared light emitted into the skin](#)
- [Digital plaster](#) which uses a band-aid sized plaster with low-power, disposable wireless vital signs monitor having a battery life of five days that can communicate with a mobile phone
- [Kai Sensors](#), which uses a microwave Doppler radar to remotely monitor heartbeat and respiration

Saul Kent and Bill Faloon have spent millions of dollars on cryonics technologies that have eliminated ice formation through vitrification, reducing ischemic damage through stabilization medications and generally improved cryonics care with better equipment & procedures. Much more money could be spent to reduce cryoprotectant toxicity, hasten cooling, provide for remote vitrification and allow for convenient shipment at liquid nitrogen temperature. Different researchers can attack problems from different vantagepoints.

Greatly reduced cryoprotectant toxicity would do more to advance cryonics than any other technological breakthrough, but even 21st Century Medicine is not focused on this problem. Former Alcor researcher Chana de Wolf could pursue her PhD in neuroscience on the subject of brain cryoprotectant toxicity if she were provided with a research laboratory in Oregon. There are a number of other cryonics-friendly cryobiologists who could make independent contributions to cryonics science if provided with more funding.

Unlike the first suggestions, these spending proposals for improving the chances of survival can benefit the whole cryonics community rather than only the individual who does the spending. This gives rise to the "public goods problem" or "free rider problem". In the world of cryonics this can be described as "Let Bill Faloon and Saul Kent do it."

Just as diversification of assets can help preserve assets, diversification of cryonics organization participation can improve the chances of survival through cryonics. Belonging to more than one cryonics organization is a good way to learn more about cryonics, to participate in cryonics and to support the cryonics community in general, rather than one organization. Some cryonicists have even made full cryopreservation arrangements with two

cryonics organizations. When arrangements are made with both [Alcor](#) and the [Cryonics Institute](#), Alcor requires that it be the primary provider, and that CI must be the backup. CI has no rule against being a back-up cryonics service provider.

When cryonics was newer and smaller there was a greater sense of community. Cryonicists had a greater sense that we were cooperating to build our own lifeboats. It was easier to see the differences our individual efforts and contributions made to the advancement of cryonics. With the growth of cryonics there is an increasing tendency for cryonicists to regard themselves as consumers of the products of cryonics organizations, rather than as Members and participants. [Richard Clair Jones](#) greatly advanced cryonics by bequeathing his assets to Alcor after his legal death and by challenging in court (and winning against) the anti-cryonics California bureaucracy. A bequest by Cryonics Institute patient Jack Erfurt helped CI to purchase and fully own its own facility, named the Erfurt-Runkel Building. The Life Extension Foundation (Saul Kent & Bill Faloon), the Miller family (Future Electronics) and Edward & Vivian Thorp have each pledged \$150,000 per year for three years to improve Alcor management and cryopreservation case readiness.

When and if cryonics works, and a significant number of cryonicists are revived, persons such as Claire, Erfurt, Kent and Faloon will be perceived very differently by the cryonics community than those who contributed not one penny more to cryonics than was absolutely necessary to pay for cryonics services. Those men will inspire others to make extra efforts to revive them and support their adaptation to future society.

Section 2.d.ii.B of the [Cryonic Suspension Agreement](#) of the Cryonics Institute states that "patients paying larger cryopreservation fees shall be entitled to priority in treatment if CI's funds became inadequate to permit continuation of the cryopreservation of all of CI's patients using those methods judged most effective by CI." Persons contributing extra money to their cryonics organization help ensure that their organization will be strong and well-equipped enough to withstand political & legal challenges, deliver better services and attract new members to become even stronger. Although these contributions benefit the whole cryonics community, the cryonics community and the cryonics organizations would not forget the special recognition and treatment that those contributions merit. Moreover, as discussed by another speaker during the video presentations, making a cryonics organization an interim beneficiary of an asset preservation trust may strengthen the trust

against challenges that there is no ascertainable beneficiary due to the uncertain personhood of a cryonics patient.

All assets are lost if their rightful owner is lost. Prudent use of assets may significantly affect the probability that the owner will survive. Assets and/or efforts should be devoted to obtaining speedy pronouncement of death and avoiding autopsy after cardiac arrest. Having equipment and persons close at hand that can result in speedy cardiopulmonary support and cooling after death has been pronounced is a valuable investment. Money spent on research and organizational strength will earn appreciation & respect from cryonicists who will be our future companions if cryonics works. Survival should be the first priority for asset allocation, especially when the future value of those assets is so uncertain.

See also: www.benbest.com/cryonics/assets.html