Independent Cryonics Educators Program

2.8: Cryonics, aging, and disease

When the core idea of cryonics is explained, sometimes listeners assume that patients will still be biologically old when they are revived. This is highly unlikely and undesirable to most of those with cryopreservation plans. We do not want to live longer if we will be ill, debilitated, and suffering. On the contrary, cryonics is part of a general life extension effort.

We are still in the early days of research into the causes of aging and methods for halting and reversing it. Eventually, aging itself will be a treatable, reversible condition as medicine attains full control of the human body at the molecular level. In the meantime, cryonics provides a bridge to a time when aging has been cured.

It is *possible* that there will come a time when a cryopreserved patient could be revived before aging has been cured. That might be true if cryonics processes have come close to true suspended animation and if the cause of legal death was now curable. In that case, the person would carry on living until aging or one of its by-products again led to cardiac arrest.

With that possible exception, cryonics experts expect that control of the aging process will have been achieved before it is possible to revive any cryopreserved patients.

Repairing the brain and its tens of billions of neurons (and far more synapses and connections) is likely to be more difficult than halting and reversing aging. Many of the same advances that will enable extension of maximum healthy life spans will also contribute to progress in being able to repair cryopreserved patients. Tissue regeneration and other guided cell growth is an example. Medical nanotechnology nanomedicine) is another.

To repair and revive cryopreserved patients, we will need to be able to do three things:

- Stop the aging process and repair the damage it has done
- Repair the damage done in the dying process
- Repair any additional damage that results as a side effect of the cryopreservation process

Imagining cryopreserved patients coming back in old bodies and brains is unrealistic. It's a bit like imagining that we would reach the moon using fireworks. In reality, space travel required us to develop far more powerful rockets along with life support systems, and more advanced computers. Revival of cryopreserved patients will be enabled by a suite of technologies that will have already been deployed to control the aging process. Cryopreserved patients will therefore return in healthy, rejuvenated bodies with fully functional brains.

The default scenario is that you would be revived in your own body (or one that is genetically identical) in optimal health. It's possible that you may return in better condition than ever. It might be considered good practice to remove any obvious defects and genetic errors. This might mean removing genetic predispositions to various illnesses (unless they are trivial to treat), changing gene expression that previously led to depression or anxiety, and crippling genetic errors.

These corrective measures are most clearly ethical if they follow wishes expressed by the patient, as recorded in their Red Book (the collection of all patient data). Otherwise, the practice may be to first revive the person and then ask them if they want any or all corrective measures to be taken. This might be more difficult and costly but is ethically the safest way to proceed. This is especially true if we consider more exotic possibilities such as android bodies and uploading.

Since no one says they want to live indefinitely in a frail, damaged, and painful body, it's a safe assumption that age reversal will have been untaken prior to revival.

References

Next: 2.9: Non-ideal cases

ICE Program

Part I: ICE: Why it is important

Part 2: Introduction to cryonics

Part 3: Procedural aspects

Part 4: Technical aspects

Part 5: Science

Part 6: Financial

Part 7: Legal aspects

Part 8: Membership

Part 9: Concerns about cryonics
Part 10: Philosophical and ethical issues
Part 11: Cultural, religious, and social issues
