Independent Cryonics Educators Program

2.6: The importance of standby and stabilization

The main stages of the cryonics process are:

- standby, stabilization, and transport (SST)
- cryoprotective perfusion
- cool down and long-term storage

Cryonics can be done without SST – and sometimes there is no choice – but the results will be inferior. In cases where a member has been clinically dead for too many hours (especially over 24 hours), obviously standby is impossible, and stabilization will consist only of cooling. In some cases where less than about 24 hours have passed, it may be possible to administer one or two medications in a very limited stabilization.

The other (and vastly better) kind of case where there is no standby is when a member is pronounced near Alcor and it's possible to get a team to the patient to stabilize and transport the patient to Alcor.

An effective cryopreservation requires rapid intervention after cardiac arrest and pronouncement of legal death. This is the purpose of a standby. During standby a team of specialists and medical professionals is deployed to the location of the terminal patient to minimize the delay between legal pronouncement of death and the start of cryonics stabilization procedures. The objective of cryonics stabilization procedures is to maintain viability of the brain by contemporary medical criteria.

What does a standby and stabilization consist of? Before a standby, sometimes an assessment is made. This involves sending out a team member to the patient's location to gather more information about their condition. This information is conveyed to Alcor's Deployment Committee, which typically includes its chief executive, Medical Response Director, and the Chief Medical Advisor. This committee interprets and implements Alcor's Comprehensive Member Standby policy, establishes standby deployment guidelines, and makes real-time deployment decisions in emergency situations.

A **deployment** is called if there is a medium or high risk of clinical death within the next seven days. Risk is assessed by observing numerous indictors including oxygen needs, urine production, changes in level of consciousness, breathing patterns, changes in fluid intake, body temperature, blood pressure, skin mottling, and electrolyte levels.

A full deployment for stabilization calls for four team members to be present at the start of cryonics procedures. To avoid fatigue and errors, standby team members are rotated in pairs, on a 12-hour cycle, to allow for sufficient rest and sleep. The stabilization team will typically be headed by Alcor's Medical Response Director and may include other Alcor staff members with EMT training, local volunteers with cryonics stabilization training, or a Standby Team of Suspended Animation, Inc, or International Cryomedicine Experts (ICE). In addition to carrying out stabilization procedures, team members also collect data for subsequent review and analysis.

The objective of cryonics stabilization procedures is to maintain viability of the brain by contemporary biological criteria after legal pronouncement of death. This means that even though a patient has been pronounced legally dead based on the heart stopping, blood circulation will be artificially restarted to reduce further injury to the brain even while the heart remains stopped. Modern stabilization technologies consist of three distinct procedures:

1. Cardiopulmonary support to restore circulation and respiration, circulate medications and enhance external cooling.
2. Induction of hypothermia to depress metabolism and protect the brain.
3. Administration of medications to depress metabolism, increase cerebral blood flow, prevent and reverse blood clotting, protect the brain, rehydrate the patient, maintain physiological pH, and prevent edema.

A fourth procedure – blood substitution – may be used in cases where a patient is distant from Alcor's facilities and requires transport, usually be air. A whole body blood washout is performed in which the blood of the patient is substituted with an organ preservation solution to enhance cooling, prevent blood clotting, and protect against cold ischemia and resulting perfusion impairment during cryoprotective perfusion.

References

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Next: 2.7: Cryonics, aging, and disease

ICE Program
