



COMPREHENSIVE MEMBER STANDBY (CMS)

In 2005, Alcor was pleased to announce our “Comprehensive Member Standby” (CMS) program, a major initiative in our ongoing quest to provide more effective cryopreservation procedures to Alcor members. CMS covers not only the “standby” phase of a cryopreservation, but also the “stabilization and transport” phase — in short, everything up until the patient is received at the Alcor facility. CMS monies are maintained in a separate fund that can be drawn on as needed so the cost to members is relatively fixed even though actual expenses for these procedures can vary by large amounts from one case to another.

Standby is a critical, and often costly, phase of the cryopreservation process. During a standby, time is of the essence. A team of highly-trained personnel is stationed near the Alcor member in need. Response personnel are outfitted with the necessary medications and equipment and stand ready 24 hours a day so they can stabilize the patient immediately after pronouncement. The team responds in an expeditious manner, very similar to the response expected for a person who donates his or her organs for transplant.

An expeditious response is very important because the chances of an effective cryopreservation increase with the promptness of the response. The faster an Alcor patient is cooled, treated with protective medications, afforded a blood washout for additional metabolic stabilization, and transported to the Alcor operating room for cryoprotection, the better the chances that a quality cryopreservation will result.

Under Comprehensive Member Standby, when the time of need is at hand, every US and Canadian based member will receive Standby and Transport services deployed according to Alcor's best judgment and available resources. (Standby services in Canada may be subject to delays due to customs and immigration requirements.) This ideally includes an around-the-clock standby team to prepare for the case, to provide for patient stabilization upon pronouncement, and to transport the patient to the Alcor facility (via ground or commercial air). Under this plan, the member will not have to provide additional funding for Standby and Transport in advance or at time of need.

The Context of CMS

Six equally critical steps must be successfully executed to complete an optimal cryopreservation. These steps are funded in three different ways.

The first two steps, up until the patient is received at the Alcor facility, are funded through Alcor's Comprehensive Member Standby program described here.

1) Standby. Alcor must be ready to deliver the fastest and most effective postmortem procedure currently available under variable circumstances, to members who have been pronounced legally dead. Optimally this involves having Alcor personnel and equipment standing by during a member's terminal phase so procedures can be started immediately upon pronouncement.

2) Stabilization and Transport. These procedures are designed to prevent further biological deterioration and to provide rapid transport to an Alcor operating room facility. In short, to "prep" the patient as best as is possible for an optimum cryopreservation.

The next two steps are funded directly from the cryopreservation funding provided by the member.

3) Cryoprotection. The next procedure takes place in Alcor's operating room. An Alcor patient is further prepared for cool down through the introduction of cryoprotectants for long-term maintenance at low temperatures. This is accomplished through the use of specialized surgical procedures and proprietary cryoprotectant perfusates.

4) Cool down. This is the stage in which the patient's temperature is gradually reduced to liquid nitrogen temperatures (-196°C) so as to be able to successfully maintain long-term cryopreservation.

The last two steps are funded through Alcor's [Patient Care Trust](#), which is a legally separate entity funded from a portion of each patient's cryopreservation funding and other donations.

5) Long-term Maintenance. This is the stage of long-term immersion in liquid nitrogen in which the patient awaits a future time when revival may be possible.

6) Revival. No one yet knows when or if this will be possible. The costs associated with recovery are also unknown, but Alcor is building up a substantial "war chest" in that regard with its Patient Care Trust.

How CMS Is Funded

Comprehensive Member Standby is funded from a separate CMS fund pool that obtains income from two sources:

- When a member is cryopreserved, a certain portion of their minimum cryopreservation funding is apportioned to the CMS fund. The amounts for this are listed in the CMS Policy given below. These amounts are not sufficient for many standby cases because the expense of such cases can vary so much from one case to the next. This is why a CMS fund pool was created.
- A CMS fee of \$15.00 per month is added to the Alcor membership dues during each member's regular billing cycle. The combination of this modest fee and the contribution to CMS from cryopreservation funding provides the member with standby coverage worth up to \$40,000 or more that would otherwise have to be paid during a time of need or through pre-funding. For minors (18 and under) and full-time students (under 25), the monthly charge is waived.

All CMS payments are non-refundable. Unfortunately, we cannot yet apply this new standby program to foreign members. As a result, only US and Canadian based members are required to pay the additional charge at this time. Members outside the continental United States and Canada must still provide independent standby funding exactly as before under the old standby policy where extra funding arrangements for standby need to be made.

CMS was planned and developed over a two-year period before it was implemented in 2005. As a result of this planning, the CMS fund pool began with an initial balance of \$100,000.

Benefits of CMS

No out-of-pocket expense for standby services at the time of need

Prior to implementation of the CMS program, Alcor members paid out-of-pocket for their standby needs with a credit card or prepayment. Standby expenses could range from \$15,000 to \$40,000, depending on the location and duration of the standby. It was often very difficult for members to incur these expenses at a time of great emotional stress and competing financial needs. Further, not every member had the financial means to make such arrangements.

The core concept of CMS is to provide standby coverage to eligible members for no additional charge at the time of need. (Eligible members are those residing in the continental U.S. and Canada. Standby response to Canada may be delayed by customs and immigration delays.) In exchange, members pay an out-of-pocket cost of \$15 per month, which is waived for minors and eligible students. For this modest fee, Alcor members receive standby coverage that would otherwise cost tens of thousands of dollars at the time of need.

CMS includes up to \$5,000 for relocation assistance

Further, the CMS program has a built-in benefit for terminal members. Alcor is a staunch advocate of encouraging its members to relocate to the Scottsdale area, especially in the event of a terminal illness. The benefits of relocation include greatly reducing ischemic injury to the patient through expeditious application of Alcor's post-pronouncement response protocol, reducing the potential for unexpected logistical challenges, and minimizing cost.

Our members are warmly welcomed at a variety of highly cooperative hospice facilities in the Phoenix and Scottsdale areas. These hospices will immediately pronounce our members upon clinical death and provide a supportive atmosphere before and during the critical first moments of our stabilization process. If it is not yet time for hospice care, we can help our members find local resources to meet their living space needs.

We believe so strongly that a successful standby sets the stage for a successful overall cryopreservation that our CMS policy provides up to \$5,000 of relocation assistance to any terminal member (with a prognosis of 90 days or less) who relocates to the greater Phoenix area. We realize relocation at the end of life can be a difficult decision. We offer this relocation benefit to increase the quality of the cryopreservation, while reducing the burden on families.

Limitations of CMS

1. CMS does not include expedited transport to Alcor by charter jet

The need for cryopreservation is often unpredictable. Legal death may occur as the last commercial flight of the day is departing. Even if Alcor is present at a patient's bedside and immediately begins the stabilization process following pronouncement, the patient may ultimately suffer several hours of ischemic injury before transport to Alcor if no commercial flights are available. If the delay is significant, cryoprotective perfusion may not even be possible, resulting in a "straight freeze," which is cooling and freezing without any chemical reduction of ice crystal formation.

Depending on the circumstances, an overnight delay may be enough to significantly impair the cryopreservation or result in a straight freeze. A straight freeze does not provide any of the protective qualities of vitrification solutions and is believed to require more advanced technologies to attempt future resuscitation. In fact, any delay in the onset of perfusion is undesirable and best avoided.

To receive the best cryopreservation possible, transport to Alcor for cryoprotective perfusion needs to happen as expeditiously as possible. How can that be achieved for those who do not live in the immediate Phoenix area? Two primary ways are: (1) Relocate nearby the Alcor facility or (2) fund a charter flight.

As previously indicated, we actively encourage our members to relocate nearby the Alcor facility when the time of need can be foreseen. Although relocation nearby Alcor is the ideal outcome, it is not always possible. For remotely-located members in danger of suffering a considerable delay while awaiting a commercial flight, we recommend providing funding for a charter flight after legal death.

Charter flights within the continental U.S. can cost as much as \$40,000, depending on the distance to be traveled. Alcor can arrange for a charter flight at the time of need, but only if the member has provided adequate funding. It is important to realize that funding for a charter jet must be provided *above and beyond* the required cryopreservation minimum.

A charter flight can often be available in as little as 2-4 hours. When moments count, and the next commercial flight is several hours away, a charter flight is your best bet. At this time, only members who have provided \$40,000 in additional cryopreservation funding have secured charter jet services within the continental U.S., should the need arise.

2. CMS may not include field blood washout for patients at older minimum funding levels

Blood replacement with an organ preservation solution is known as blood washout, or simply washout. The main immediate benefit of washout is rapid cooling. As previously indicated, the faster an Alcor patient is cooled, the better the chances that a quality cryopreservation will result. Placing ice around the body is not nearly as effective as circulating cooled solutions throughout the body using the vascular system, as occurs during a washout.

Washout is the single most logistically challenging aspect of a standby. It requires personnel trained to access the vascular system and operate the necessary perfusion equipment. It often requires securing an appropriate facility where the procedure can be performed on short notice. In deciding whether to proceed with a washout, Alcor must balance the benefit of expedited cooling against the potential detriment of delaying transport of the patient to Alcor for full cryoprotection. Alcor must also consider the cost. Retaining the necessary personnel and facilities can be expensive, particularly if the standby lasts longer than expected. Note that a washout is not normally performed in cases local to the Alcor facility, but even then there may be instances when it would be of benefit.

In some circumstances, a patient who would have benefited from a washout will not receive one, simply due to financial constraints. At this time, those who have provided less than \$80,000 for a neuropreservation or less than \$200,000 for a whole body cryopreservation may not receive a field washout. As Alcor raises its rates, members who want to have the best chances of receiving an optimum cryopreservation will need to increase their funding to match Alcor's new rates.

3. CMS may include limited standby personnel or technologies

CMS can provide limited standby personnel for limited periods of time and may not include improved technologies. It is anticipated that new technologies will become available in the future that will cost more. For instance, it may one day be possible to expeditiously cool a cryonics patient internally much faster than even a washout can achieve, such as using lung lavage technology. Thus, Alcor will use its best judgment, considering the amount of funding provided by the member, to determine the level of care that can be provided.

Comprehensive Member Standby Policy

Consistent with the Alcor mission statement and belief that delivering the best available care includes a quality standby and transport, it has been decided by the Alcor Board of Directors that:

1) Alcor will offer CMS to all members starting January 1, 2005, subject to the terms and conditions described herein. Standby and Transport is defined to include all rescue activities up through the time the legally pronounced member is delivered to the Alcor operating room for cryoprotection. This will be officially known as CMS.

2) A separate general ledger fund account has been established for CMS distributions. This fund account is credited with all CMS revenues as described herein and from which all CMS expenses shall be paid. All disbursements from this fund will require the approval and signature of two authorized persons from a group that includes the CEO, the Vice President, the Technical Operations Director, the Chief Financial Officer, and the Chairman of the Board. This fund will not be used for any purpose other than for CMS. If this fund is ever reasonably determined by the Board of Directors to be in excess of what is prudently required for future anticipated Standby and Transport expenses, additional CMS revenue will be divided equally between the Patient Care Trust and the General Fund.

3) Effective January 1, 2011, new applicants will require funding minimums of \$80,000 for a neuro procedure and \$200,000 for a whole-body procedure. Funding minimums for members who joined prior to January 1st 2011 are not changed at this time.

4) New cryopreservation funding distribution payments will be implemented to support CMS. Distributions to the CMS fund pool and Patient Care Trust, and amounts set aside for cryoprotection, cool down, and transfer to long-term care, will be as follows for the following levels of cryopreservation funding:

- **\$35,000** (minimum amount for neurocryopreservation set in 1982)
 - \$3,000 to the CMS fund pool
 - \$10,000 to the Patient Care Trust
 - \$22,000 for cryoprotection, cool down, and transfer to long-term care
- **\$41,000** (minimum amount for neurocryopreservation set in 1991)
 - \$5,000 to the CMS fund pool
 - \$10,000 to the Patient Care Trust
 - \$26,000 for cryoprotection, cool down, and transfer to long-term care
- **\$50,000** (minimum amount for neurocryopreservation set in 1994)
 - \$5,000 to the CMS fund pool
 - \$15,000 to the Patient Care Trust
 - \$30,000 for cryoprotection, cool down, and transfer to long-term care

- **\$80,000** (minimum amount for neurocryopreservation set in 2005 and still in effect)
 \$15,000 to the CMS fund pool
 \$25,000 to the Patient Care Trust
 \$40,000 for cryoprotection, cool down, and transfer to long-term care
- **\$100,000** (minimum amount for whole-body cryopreservation set in 1982)
 \$10,000 to the CMS fund pool
 \$40,000 to the Patient Care Trust
 \$50,000 for cryoprotection, cool down, and transfer to long-term care
- **\$120,000** (minimum amount for whole-body cryopreservation set in 1991)
 \$10,000 to the CMS fund pool
 \$60,000 to the Patient Care Trust
 \$50,000 for cryoprotection, cool down, and transfer to long-term care
- **\$150,000** (minimum amount for whole-body cryopreservation set in 2005)
 \$15,000 to the CMS fund pool
 \$65,000 to the Patient Care Trust
 \$70,000 for cryoprotection, cool down, and transfer to long-term care
- **\$200,000** (minimum amount for whole-body cryopreservation effective January 1, 2011)
 \$20,000 to the CMS fund pool
 \$110,000 to the Patient Care Trust
 \$70,000 for cryoprotection, cool down, and transfer to long-term care

5) Effective January 1, 2011, there will be a monthly CMS pool charge per member of \$15.00 per month in addition to the normal membership dues. This separate fee also applies to everyone who has paid for or been granted life membership as no one, regardless of status, is exempt from standby expenses. This CMS pool increase will be placed directly into the CMS fund pool. The charge shall be waived for full time students under 25, and minors (18 and younger). This charge may be waived in part or in whole, with approval from two of the following Alcor officials: Chief Executive Officer, Vice President, Technical Operations Director, Chief Financial Officer, and Chairman of the Board.

6) Members are encouraged to make additional optional funding provisions for standby expenses and to make directed donations to the CMS pool.

7) Any member not already residing in the greater Phoenix, Arizona area, and who is diagnosed as being terminally ill with a prognosis of 90 days or less, and who relocates to a residence or terminal care facility in the greater Phoenix, Arizona area, will be entitled to a one time \$5,000 expense relocation reimbursement, from the CMS fund pool, payable to the member or the member's legal representative. A different geographical location may be chosen by the Board at any time for the purposes of this relocation reimbursement.

8) All new members are subject to a waiting period of 180 days before CMS benefits begin, starting from the date signup arrangements are completed. New members are encouraged to make temporary Standby and Transport financial arrangements of at least \$40,000 during this 180-day waiting period.

9) If a member is declared terminal within the 7-day standby period or dies during an elective standby, it will automatically be converted to a standard standby.

10) The annual charges, minimum funding structure, and allocations to finance CMS are subject to change by the Board at any time.

11) CMS terms and conditions apply only to members residing in the continental United States and Canada (standby services in Canada may be subject to delays due to customs and immigration requirements).

12) This CMS description incorporates the accompanying terms and conditions of initiating and executing standby protocols as described under “Types of Standby”.

13) Two persons from among the Chief Executive Officer, Vice President, Technical Operations Director, Chief Financial Officer, and Chairman of the Board are required to initiate a standby under CMS, and are regarded as the final authority therein.

Types of Standby

Level One

Full Standard Standby: It is determined that the member is at high risk of legal death in an immediate or short term time frame (within seven days). A stabilization and transport team, consistent with personnel resources available to Alcor, will be deployed to standby at the member's location at the full expense of the CMS fund pool.

Level Two

Intermediate Level Standby: It is determined that the member is at medium risk of legal death in an immediate or short-term time frame (within seven days) and will benefit from a reduced degree of on-site or remote monitoring, consultation, and preparation. This CMS expense will be paid out of the CMS fund pool. Should the member so desire, he or she may upgrade the standby level by pre-funding deployment up to Level One.

Level Three

Elective Standby: The member does not qualify for Level One or Two Standby and Transport coverage and wishes to have a self-funded standby. The member will pay for this standby, as it is prudently available, at a price to be quoted depending on the level of support requested. Members who choose Elective Standby must do so prior to being admitted to a hospital for elective or low-risk surgery.

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