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SCIENTIFIC COMMUNITY MOVES CLOSER TO IMMORTALIST GOALS

The following is a reprint of the recent progress report sent by the BACS Secretary to the Foundation For the Enhancement and Extension of Life, in Houston, Texas:

Progress Report: November 9, 1984

Bay Area Cryonics Society, Inc.
Life Extension Sciences Research Program

In the past two months, BioPhysical Research and Development, our research subcontractor, has continued its concentration on the Hamster Suspension Project. Although the Mouse Cloning Project has again received only relatively minor attention, there was an opportunity to meet personally with John Gurdon, the investigator who first reported growing whole frogs utilizing nuclei harvested from tadpole intestinal cells. Unfortunately, there has been a major setback reported from one of the leading laboratories in the area of mammalian nuclear transplantation. Preliminary planning has proceeded in the Rodent Anti-Aging Project, with presentations based on our previous research results and including our current thinking regarding the underlying mechanisms of aging made before scientific and medical audiences.

BACS continues to engage in efforts to locate additional lab space, although setbacks have occurred in the acquisition of the Oakland mortuary mentioned in previous reports. Publicity regarding our efforts in life extension has increased, highlighted by an enclosed news release from the Public Information Office of the University of California at Berkeley.

During the past two months Drs. Harold Waitz, Hal Sternberg and Paul Segall, working in conjunction with University of California Senior Sandra Gan, have developed a blood substitute with an ionic composition reflecting the intra-cellular environment which permits revival of hamsters from asanguinously perfused states below 1°C. This new blood substitute is used in conjunction with the previously employed solutions, which were more similar in composition to blood.

A new procedure for the perfusion of hypothermic hamsters has been developed in which the chilled hamsters are initially perfused with the Ringer's Lactate based (extra-cellular type) blood substitute used in past experiments, and then subjected to perfusion with the intra-cellular perfusate <ICP). The

ICP perfusate is made by simply diluting Ringer's Lactate 1:4 by volume with distilled water, and adding Dextran 40, mannitol, dextrose, KC1, MgCl2 and erythromycin. The perfusate is buffered with Tham. The exact composition of our latest ICP solution is as follows:

6 grams of Dextran 40 is added to 25 ml of Ringers Lactate and 50 ml of distilled H_2O- To this is added:

- 2.42 grams mannitol
- 180 mg dextrose
- 41 mg MgCl2.6H20
- 203 mg KC1
- 3.125 mg erythromycin

q.s. the above with distilled H_2O to 100ml and add 3.0 ml of Tham buffer.

Recent experiments have suggested that it is important to maintain pH as close to the alkaline side of 7.38 as possible. We have therefore increased the concentration of Tham buffer in all our solutions. In order to reduce the heparin load in our hamsters, it is only used in the blood substitute employed to initially wash out the blood. Heparin is not added to the ICP solution, nor is it present in the extra-cellular type perfusate used to wash out the ICP before whole blood is administered (although it is present in this whole blood).

We are also experimenting with alterations in our protocol involving the extent of the washout, using 1, 2 or even 3 passes of each of the different blood substitute solutions. We have also found it useful to alternate periods of higher and lower pressure during our perfusions (which we call the flush-drain procedure) in order to remove sequestered high-potassium solution which is toxic to physiological function at normothermia.

After a substantial number of failures, we have been able to briefly revive 2 hamsters subsequent to perfusion with ICP. One hamster was perfused with extra-cellular type solution (which we call Pre-sub) and then with ICP. Due to the unusual heat of that particular day, as well as the extraordinary length of the lunch break taken by the researchers, the crushed ice which had been placed around the hamster to cool it had melted. When the investigators returned, they found that the animal's rectal temperature had reached 12°C with the head undoubtably becoming even warmer, as it had been more exposed to the surrounding air. The hamster was again cooled down with ice, its vasculature flushed with an extra-cellular type perfusate similar to Pre-sub but devoid of heparin (called Post-sub), and perfused and transfused with whole blood. It was warmed and revived. The animal regained consciousness but was very weak, and died shortly thereafter. We consider it somewhat remarkable that it could revive at all under those conditions.

Dr. Waitz has continued to update the surgical platform, incorporating the 3 way stop-cocks onto the surgical stage. This will also be done with the EKG leads and the respirator mask. We will now be able to detach the hamster from its life support systems following cardiac arrest at the ice-point, and move it to an environment fully enclosed in crushed ice, insuring maintenance of whole body deep hypothermia.

This ability to reversibly detach the hamster from its life support systems will be important during freezing and thawing, so that the animal can be placed in the necessary programmed cooling and thawing devices. Dr. Thomas L. James, from the Magnetic Resonance Laboratory at the University of California College of Medicine in San Francisco, who lectured our weekly Berkeley campus laboratory discussion group on the physiological uses of nuclear magnetic resonance <NMR), expressed interest in studying the physiological chemistry of hypothermic hamsters in "the magnet".

This San Francisco team has already begun studies of brain death, cerebral ischemia, hypoxic hypoxia and hypothermia in rats. Detaching the hamsters from their surrounding encumbrances would be important for their use in any such experiments. Dr. James suggested that he might contact us again in the first part of 1985.

During the coming months we plan to continue researching the most effective way in which to employ the ICP, Pre-sub and Post-sub solutions. When we are satisfied with the effectiveness of our procedures, we will then attempt to extend the period of deep hypothermia, modifying our solutions in ways which have previously shown to improve performance in other physiological systems.

In a meeting with Dr. Boris Rubinsky, of Berkeley's Department of Mechanical Engineering, he agreed that if it were possible to raise enough money to provide a salary for one of his postdoctoral research fellows, as well as to cover research costs (we have estimated the total cost of this project to be approximately $25,000), he would sponsor a preliminary 9 month study of hypothermic asanguinous perfusion in his laboratory. If the necessary financing could be arranged, it would add, at least on a temporary basis, the resources of a well-known Cryobiology laboratory to our Hamster Suspension Project.

Paul Segall presented his research involving delayed aging at a lecture in the Department of Nutritional Sciences at the University of California's Berkeley campus. During the lecture, a representative from the university's Office of Public Information was present, and decided to write a press release concerning the research. The release, included below in this report, was timed to coincide with Segall's October 1984 presentation at the American Aging Association in New York. The

release was picked up by wire services and led to news reports across the country.

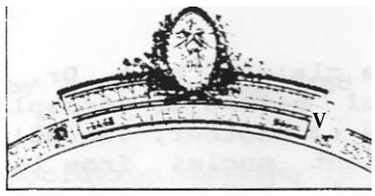
The American Aging Association meeting in New York was a very successful affair. There were several hundred participants, mostly scientists and physicians. Many interesting research papers were presented, including some very excellent work relating to protein synthesis declines and aging. The conference was attended by life extension activists Saul Kent, Dr. Greg Fahy and Dr. Ward Dean. Patrick M. WcGrady, Jr., a well-known science writer (who wrote The Youth Doctors and co-authored the best selling Pritikin Program for Diet and Exercise) has been appointed Vice-President of the American Aging Association (AGE) and is a strong supporter of the life extension movement. AGE has also received $120,000 as a result of fund raising efforts on the part of authors Durk Pearson and Sandy Shaw. The AGE Board of Directors are considering the award of small research fellowships to stimulate innovative projects in aging research.

Paul Segall's presentation of his recently developed hypothesis concerning aging as a programmed cascade of specific cell loss, which seeks to explain the age-retarding effects of severe nutritional restriction as deriving from the decrease of specific cell proliferation and death, went without incident. AGE is planning another conference on biomedical gerontology to be held in New York City in July 1985, immediately prior to the international gerontology conference scheduled for the New York Hilton later that month.

Dr. John Gurdon from England's Cambridge University visited the Berkeley campus last month, and lectured on the determination of embryological development. After his lecture, there was a discussion period in which Paul Segall was able to question him about his pioneering research in the field of amphibian nuclear transplantation (the cloning of whole frogs using nuclei from intestinal tadpole cells, as well as developing tadpoles from nuclei harvested from adult skin cells). Dr. Gurdon stated that he had essentially been inactive in this field since 1975, as he was more interested in the biochemistry of differentiation and as he saw no clear way to progress quickly in nuclear transplantation. He praised the work of Dr. A. J. Brothers from Berkeley's Zoology Department, and that of Dr. Marie DiBerardino from the University of Pennsylvania College of Medicine in Philadelphia, both of whom are currently working with nuclear transplantation in amphibians.

Dr. Gail R.Martin, from the University of California School of Medicine at San Francisco visited our weekly laboratory discussion group and during a discussion of embryonic mouse cell culture techniques informed us of recent failures reported by Dr. Davor Solter and his colleagues at the Wistar Institute in Pennsylvania in the area of mouse embryonic nuclear

American Aging Association
14-th Annual Meeting
Roosevelt Hotel
New York Citv, New York



OFFICE OF PUBLIC INFORMATION

101 SPROUL HALL, BERKELEY, CA 94
(415)642-3734

10/17/84--Lauerman--Fi1e #9214

FOR RELEASE SUNDAY 10/21/8^ (AFTER DELIVERY OF PAPER SCHEDULED 2:15 P.M. EDT/ll:15 A.M. PDT SATURDAY 10/20/84)

Berkeley--The sequence of body breakdowns that cones with aging is not a random process. It may be caused instead by the loss of specific cell groups in the brain and endocrine system on a genetically programmed schedule, a University of California - Berkeley research associate said today.

Experiments with limiting a key element in the diet of rats indicate the aging process is linked to the loss of these cell groups, Paul Segall told the 14th annual meeting of the American Aging Assoc1at ion.

As a result of these lost cell groups, we experience the signs of aging, Segall said, such as the loss of hair or hair color, a reduced Immune response, and a variety of other symptoms.

Segall has been studying aging for 17 years, the last 12 of these under the supervision of Professor Paola Timiras of the Department of Physiology-Anatomy at U.C.-Berke1ey.

Timiras mapped the first biological pathways of aging in the early 1970s, starting with the brain and moving through the endocrine gland system in a pattern of organ and endocrine disfunction.

Segall has expanded on those ideas with his theory of cell loss. He believes the loss of cell groups wlthtn the brain and endocrine glands causes them to malfunction, and that the loss of one group of cells leads to the next.

The restricted diet, Segall said, may slow the proliferation of cells. This In turn would slow the production of proteins by those cells In the brain and endocrine system, which slows the loss of -more-

cell groups, Segall said.

Segall's restricted diet allows only for the maintenance of the animal without providing normal growth and cell production. He believes that this Interrupts the aging process.

Segall said that in his experiments he deprived rats of adequate amounts of the amino acid tryptophan, which Is essential to protein production In the nervous system.

Segall was surprised to find that this deprivation did not reduce the life span of the rats, but in some cases Increased it dramatically.

Some rats on the experimental diet lived up to eight months longer than rats on normal control diets.

Would the same treatment help humans live longer?

Don't try it, Segall warned; It could be very dangerous.

He said the rats on the experimental diet did not grow normally, and had neurological and behavioral disorders.

However, the fact that some experimental animals lived longer than the control animals was Interesting, Segall said, because we normally think of a hard life leading to an early grave.

His research shows that a particular kind of nutritional stress may make It possible for animals to live longer.

Segall conducted a variety of experiments with the 1ow-tryptophan diet.

His first experiments tested rats after they had been returned to a normal diet and were exposed to physical stress, such as Immersion In freezing water.

The rats that had been on the experimental diet were quicker to recover from the shock of immersion than rats on the control diet, Segal 1 said.

-more-

He also conducted experiments In which he mated the tryptophan-deprIved rats, again after they had recovered from the experimental diet.

The rats that had been on the experimental diet were able to reproduce at much later ages, as late as 33 months, where the control animals were unable to reproduce at half that age, Segall said.

Other research that attracted Segall's Interest showed that rats or restricted diets retained certain protein-producing capabilities longer than rats on normal diets.

Segall's experiments in aging are part of a larger Interest in life extension. He is currently performing experiments independently of Dr. Timiras' laboratory on the recovery of hamsters from low-temperature preservation. He hopes these studies will lead to a better understanding of the stresses of low temperature on the body and its applications in the medical world.

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Mr. Segall can be reached at the Roosevelt Hotel until Oct. 20 at 2 12/661-9600. After he returns to Berkeley, he can be reached at 415/524-9540 or 415/642-8235.

Dr. Timiras can be reached in her office at 415/642-4166.

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Attorney H. Jackson Zinn, BACS President, submitted the following items for our readers. The first suggests ways of saving money on postage, the other two consist of a copy of a recent California ruling concerning autopsies and religious beliefs, and a form certifying that ones religious beliefs would be violated by autopsy.

SAVE YOURSELF - By H. Jackson Zinn

870 Market St., Ste. 368
S.F., CA (415 397-0692

Many cryonicists have made arrangements to leave their entire estates, or substantial portions thereof, to cryonics organizations at the time of the legal pronouncement of their deaths. At the present time, the number of cryonicists is quite small. Our preservation and possible revival will hinge in part upon the amount of financial resources made available by us to our respective cryonics organizations. We thus appear to have a strong stake in our mutual prosperity.

I have decided to initiate the Save Yourself column as a forum for the exchange of money-saving ideas, and welcome input from the readership. Money that we save will be money available to us for cryonics, or for any other purpose we may choose. The information will be made available to all cryonics newsletters.

Saving on Postage

I have found three major ways to save on postage:

(1) **Discount Postage** - This is mostly composed of stamps accumulated by collectors or investors, or as a sole asset of a business which has gone through bankruptcy. Most recent U.S. stamps are printed in large numbers, and are not a wise investment. However, when the buyers find this out, they also find that the Post Office will not repurchase or exchange them. Their only choice is to use the stamps or to sell them at a discount. Stamp dealers will usually buy such stamps at 20% less than face value. You can buy from the stamp dealers at 10% off face value, but the dealers usually will insist that you buy at least $100.00 worth at a time.

(2)- **Ungummed Postage** - Stamps sometimes lose their gum through flood or steam damage, or stamps are soaked off of envelopes when a mailing project has to be cancelled. (Example: Gary Hart plans to speak at a San Francisco fundraiser. Invitations are stamped, but before mailing the fundraiser is cancelled).

Ungummed postage can be purchased for up to 50% off face value. The stamps are reaffixed to envelopes by use of gluesticks, which can be purchased for less than a dollar, & look & operate like lipsticks.

One word of warning, however: make sure the stamps are purchased from a reputable source. If they have been used, there could be problems with postal inspectors. This past year a couple was arrested in the State of Washington with over five million ungummed stamps in their possession, and chemicals which were allegedly used to remove cancellations from the stamps. A stamp need not be gummed, but it must be previously unused to constitute valid postage.

(3) **U.N. Stamps** - A few years ago the United Nations issued a stamp entitled "Inalienable Rights of the Palestinian People". Many dealers and collectors were upset by this stamp, St dumped cheir U.N. collections. U.N. Stamps can only be posted from the U.N. Building in New York City. However,they can be purchased for up to half face value, and one can even pass on the "Inalienable Rights" stamp in doing so. If you have a large mailing and you're not near the U.N. Building, you can use conventional postage to mail envelopes placed in a large box addressed to the Postmaster at the U.N. Building for remailing from the U.N. Building. The U.N. follows American postal rates.

CHAPTER_____

An act to add Section 27491.43 to the Government Code, and to add Section 10111.5 to the Insurance Code, relating to autopsies.

LEGISLATIVE COUNSEL'S DIGEST

SB 1824, Rosenthal. Autopsy: decedent's religious belief: insurers.

Existing law specifies various circumstances in which the coroner may, or is required, to inquire into the cause of death, and authorizes the coroner in such cases to conduct an autopsy on the body of the deceased to determine the cause of death. Other provisions of law authorize a coroner, in the course of an autopsy, to remove specified tissues, organs, and glands for specified purposes.

This bill would, with certain prescribed exceptions, prohibit a coroner from performing an autopsy, dissection, or removal of corneal tissue, or fluid, if the coroner has received a certificate of religious belief, executed by the decedent, that the procedure would be contrary to the decedent's religious belief. The bill would require the coroner to delay performing the procedure upon being informed by a relative or friend of the deceased that the deceased had executed a certificate of religious belief.

The bill would specify requirements for execution of a valid certificate of religious belief.

The bill would prescribe procedures for a coroner to obtain judicial review of the validity of a certificate of religious belief, or for an order authorizing an autopsy.

Notwithstanding the existence of a valid certificate of religious belief, the bill would authorize a coroner to perform any of the prohibited procedures if he or she has a reasonable suspicion thai tin- death was caused by a criminal act of another or by a contagious disease constituting a public health hazard, and would permit a court to authorize an autopsy oi other procedure if the cause ol death is not evident, and the public interest in

determining the cause of death outweighs the decedent': exercise of religious convictions.

The bill would absolve a coroner from liability foi damages in a civil action for any act or omission taken ir compliance with these provisions.

The bill would also provide that an insurer shall not bt liable for payments under a life insurance policy when an autopsy is necessary to determine whether death was an accident or suicide and the autopsy is prohibited under the provisions of this bill.

The bill would make other related changes.

The people of the State of California do enact as follows:

SECTION 1. Section 27491.43 is added to the Government Code, to read:

27491.43. (a) (1) Notwithstanding any other provision of law, except as otherwise provided in this section in any case in which the coroner, before beginning an autopsy, dissection, or removal of corneal tissue, pituitary glands, or any other organ, tissue, or fluid, has received a certificate of religious belief, executed by the decedent as provided in subdivision (b), that the procedure would be contrary to his or her religious belief, the coroner shall not perform that procedure on the body of the decedent.

(2) If, before beginning the procedure, the coroner is informed by a relative or a friend of the decedent that the decedent had executed a certificate of religious belief, the coroner shall not perform the procedure, except as otherwise provided in this section, for 48 hours. If the certificate is produced within 48 hours, the case shall be governed by this section. If the certificate is not produced within that time, the case shall be governed by the other provisions of this article.

(b) Any person, 18 years of age or older, may execute a certificate of religious belief which shall state in clear and unambiguous language that any postmortem anatomical dissection or that specified procedures wool'' violate the religious convictions of the person '' Certificate shall be Signed and dated by the pc*i

presence of at least two witnesses. Each witness shall also sign the certificate and shall print on the certificate his or her name and residence address.

(c) Notwithstanding the existence of a certificate, the coroner may at any time perform an autopsy or any other procedure if he or she has a reasonable suspicion that the death was caused by the criminal act of another or by a contagious disease constituting a public health hazard.

(d) (1) If a certificate is produced, and if subdivision (c) does not apply, the coroner may petition the superior court, without fee, for an order authorizing an autopsy or other procedure or for an order setting aside the certificate as invalid. Notice of the proceeding shall be given to the person who produced the certificate. The proceeding shall have preference over all other cases.

(2) The court shall set aside the certificate if it finds that the certificate was not properly executed or that it does not clearly state the decedent's religious objection to the proposed procedure.

(3) The court may order an autopsy or other procedure despite a valid certificate if it finds that the cause of death is not evident, and that the interest of the public in determining the cause of death outweighs its interest in permitting the decedent and like persons fully to exercise their religious convictions.

(4) Any procedure performed pursuant to paragraph (3) shall be the least intrusive procedure consistent with the order of the court.

(5) If the petition is denied, and no stay is granted, the body of the deceased shall immediately be released to the person authorized to control its disposition.

(e) In any case in which the circumstances, manner, or cause of death is not determined because of the provisions of this section, the coroner may state on the certificate of death that an autopsy was not conducted because of the provisions of this section.

(f) A coroner shall not be liable for damages in a civil action for any act or omission taken in compliance with the provisions of this section.

SEC. 2. Section 10111.5 is added to the Insurance Code, to read:

10111.5. An insurer shall not be liable for payim , claimed under an individual or group policy ol 111• insurance if the duty to make those payments depone Is upon a factual determination of whether the death of the insured was an accident or a suicide and that fact cannot be established without an autopsy and the autopsy is prohibited under Section 27491.43 of the Government Code. Insurers refusing or delaying payments in those circumstances in good faith shall not be liable for exemplary or punitive damages.

CERTIFICATE: OF RELIGIOUS BELIEF

Pursuant to Section 27491.43 of the Government Code of the State of California, I hereby excute this Certificate of Religious Belief:

My religious belief compels me to oppose any postmortem procedure, dissection, or autopsy which would in any way delay, impede, or prevent the cryonic preservation of my remains.

Dated:

WITNESSED

Dated:

Address:

WITNESSED

Dated:

Address:

The next two items hove been submitted by Art Ouaife, President of Trans Time, Inc.

COMING SOON ...

THE WRIST **LOGIC** COMPUTER!

Way Back When ...

During my college years in the 1960's, one could recognize an engineering student by the slide rule hanging from his belt. Since the 1970's, slide rules have passed the way of the horse and buggy, replaced by the calculator. In about 1973 I bought one of the early "hand" calculators (it still took a big hand) which could do only the four basic arithmetic operations, for $120.00. Today a calculator with those and more functions, miniaturized by another factor of 10 or so, sells in supermarkets for about $5.00. And today many people even wear wristwatches capable of doing such arithmetic, which for the frivolous are even capable of playing games!

This advance in technology is a mirror of the extraordinary advances in miniaturization and speed that have occurred in the larger digital computers. The first computers in the 1940's consisted of huge rooms full of vacuum tubes, which required crews of technicians to keep replacing the burned-out tubes, and other crews of "programmers" to reconfigure the circuit wiring for each new problem to be solved.

We have now reached the state where, for a few hundred to a few thousand dollars, anyone can have a computer on his desktop that will do word processing, spreadsheets, accounting, and programming of sophisticated mathematical computations in easily learned languages like BASIC. John von Neumann — a father of 'the modern computer and my candidate for the fastest mind of the twentieth century — would drool in his beer if he could see how his child has grown up and grown down!

Predicate Logic

In the 1600's, such philosophers as Hobbes and Leibniz advanced the goal that it should be possible to develop a universal "calculus of reasoning", which would as surely determine the consequences of a set of hypotheses as the rules of arithmetic determine the sum of a column of numbers.

In 1879 Frege formulated just such a calculus, which was extensively developed by Whitehead and Russell in early 1900's, and proved complete by Godel in 1930. These luminaries (to mention but a few) have produced a logical calculus — the first order predicate calculus — that approaches Leibniz' vision, in that:

1. The calculus is logically complete. If a conclusion follows logically from a set of hypotheses, it is effectively provable from these hypotheses using the rules of this calculus in much the same way one can use the fundamental rules of arithmetic to conclude that 2 + 4 = 6 .

2. The procedures of this calculus, being effective (i.e. algorithmic, like

arithmetic computations), are programmable on a digital computer.

I wrote such a logically complete computer program back in 1968, using the machine-oriented "resolution" logic of J.A. Robinson, and am now using a much more extensive program developed in recent years at Argonne National Laboratory. Such automated reasoning systems have already been used to solve previously unsolved problems in mathematics and logic; assist in the formulation of "expert systems" which have been used to mimic the thinking of human experts in diverse fields such as medicine, chemistry, and mineral exploration; and to design logic circuits.

The Wrist logic Computer

But these applications are still the tip of a very deep iceberg. In principle: any problem which is capable of precise formulation is solvable by an automated reasoning program, or else it can't be solved at all (a consequence of 1. above). Of course, we must agree upon the database of facts and laws (e.g. Force = Mass x Acceleration in mechanics) before we will agree upon the conclusions drawn by an automated reasoning program. But there is already substantial agreement concerning the fundamental axioms, laws, and facts of mathematics, physics, and chemistry (in decreasing order of "expert" consensus).

The day is coming when when we will realize Leibniz' dream, which should now be part of our dream. We will describe a problem to our wrist computer in spoken English, which it will digest and shortly return the problem's solution in the computer's synthesized English. (I am lightly passing over some presently difficult problems in English speech recognition and analysis by computers, but these are on the way to being solved, as they obviously will be).

And Then ...

Even the last projection is very tepid compared to the likely reality of 100 years from now. On the one hand, straightforward extrapolations suggest that computer technology will have evolved to the point where the equivalent of our currently most powerful (Cray) computer will fit into your earlobe with much room to spare.

On the other hand, genetic engineering and the use of other molecular machinery will soon begin evolving the human race — and us, the living — into a higher species, if only we manage to stick around.

Let us all stick around and savor the benefits all around. Calculemus!

Art Quaife

Octooer 1, 1984 File: FeeSched

TRANS TIME, INC.
CURRENT FEE SCHEDULE

Service	Fee
Emergency Responsioility, including Life Line service, and Standpy Alert response to Donors who make guaranteed payment arrangements (charge is oilled to the non-profit cryonics society, NOT to the Donor):	$ 108.00/year/Donor $ 54.00/year/additional family memoer
Personnel for a LOCAL Standoy Alert (within 125 miles of the center of San Francisco or Los Angeles):	$ 20.00/hour/person first day, minimum of $ 200.00/day/person $ 10.00/hour/person after first day (continuous Standoy)
Personnel for a REMOTE Standoy Alert (over 125 miles from the center of San Francisco or Los Angeles):	$ 20.00/hour/person first 3 days, minimum of $ 200.00/day/person $ 10.00/hour/person after third day (continuous Standoy)
Air and land transportation:	At our cost or at charges oilled to us, plus 20% markup to cover personnel involved at our home office
Surcharge for Standoy Alert response to a Donor NOT a memoer in good standing of a non-profit cryonics society paying Emergency Responsioility fees to TRANS TIME (response not guaranteed, and payment MUST ce assured):	50% markup on total Dill
The acove charges do not include the charges of other agencies, such as a cooperating mortuary or hospital.	
Phases I and II of suspension, including all procedures necessary to introduce cryoprotectants into the cody and reduce the Donor's temperature to that of solid carrjon dioxide:	$14000.00 (whole cody) $11000.00 (neuropreservation) Donor or sponsoring relative must also Decome a memoer of a contracting non-profit cryonics society