The Medical Research Center
Brookhaven National Laboratory
Upton, L. I., New York

R

725534

BROOKHAVEN NATIONAL LABORATORY

MEMORANDUM

DATE: 17 April 1972

TO: E. P. Cronkite

FROM: J. S. Robertson

SUBJECT: C I R C

Reference: CIRC minutes for meeting of 3 April 1972.

As indicated in the referenced minutes, the CIRC is concerned about the continued appearance of certain projects on the active list but which are over two years out of date and for which requests for review have not been received. It is proposed that these now be reclassified as inactive. They can, of course, subsequently be restored to the active list through the usual procedure.

Specifically, it is proposed that the following projects be relegated to the inactive list:

CIRC NO.	Date Orig.	Principal Investigator	Description
2	6/30/64	Dr. Cronkite	H-3 Cell Kinetics
2A	2/28/67	Dr. Cronkite	C14 Labelled Pyrimidine
15	6/30/64	Dr. Atkins	TC-99M Scanning TC04
15A	2/5/65	Dr. Atkins	TC-99M Scanning TC-S
18	6/30/64	Dr. Cronkite	CO-60 ECIB
18A	12/15/64	Dr. Cronkite	CO-60 ECIB leukemia
18B	2/25/65	Dr. Cronkite	CO-60 ECIB pre kidney transplant
18C	7/12/65	Dr. Schiffer	CO-60 ECIB amphotericin B
18D	1/27/69	Dr. Rai	ECIB CLL

JSR:mas

REPOSITORY Records Holding Area, Bldg. 494
COLLECTION Committee-Clinical Investigations and Uses of Radioisotopes
BOX No. 4
FOLDER CIRC #15

1179665

The Committee on Clinical Investigations and Uses of Radioisotopes hereby approves the program with the following title:

Appraisal of Tc^{99m} as a scanning agent.

CIRC # 15 has been assigned to this program.

Walton W. Shreeve

Walton W. Shreeve, M.D., Ph.D., Chairman

Eugene P. Cronkite

Eugene P. Cronkite, M.D.

Eckart Schackow

Eckart Schackow, M.D.

Melvin H. Van Woert

Melvin H. Van Woert, M.D.

James S. Robertson

James S. Robertson, M.D., Ph.D. (ex officio)

Date April 10, 1964

Place Medical Research Center
Brookhaven National Laboratory
Upton, New York

1179666

RECAP SHEET

CIRC 15 Rev. 9/7/72

Title: Clinical Use of ^{99m}Tc Sulfur Colloid

Spon. Phys.: Dr. Brill
Prin. Invest.: H.L. Atkins
Others: ~~Yonekura~~ Y. Bizais
~~I. Zanzi~~ Z. OSTER

Consent forms: 327,~~329~~,400,401 .

NO AGE LIMIT

IND 4172 - Sulfur colloid - 3/78 Now commercially available
~~4316~~ - Pertechnetate-Now normal procedure and is to be used when medically indicated for routine purpose. IND is inactive.

Approvals

HSRC	Dept.
Initial	
9/8/72	10/24/72
Recertification	
10/29/73	11/1/73
Modification (no age limit)	
2/4/74	2/4/74
Recertification	
1/6/75	2/28/75
Recertification	
4/13/76	4/16/76
Recertification	
5/11/77	5/17/77
Recertification	
5/17/78	5/22/78
Recertification	
5/9/79	5/17/79
Recertification	
7/9/80	10/28/80
Recertification	
11/18/81	11/23/81
Recertification	
1/12/83	1/13/83

Pts. studied

1972-1973 - 314 pts.
1973-1974 - 310 pts.
1974-1976 - 57 pts.
1976-1977 - 49 pts.
1977-1978 - 44 pts.
1978-1979 - 29 pts.
1979-1980 - 27 pts.
1980-1981 - 19 pts.
1981-1982 - 7 pts.
1982-1983 -

PURPOSE: Colloid is used for liver, spleen, bone marrow and lymph node imaging in clinical situations that require it only. USP approved kits are available to make compound but we prefer own method because of particle size.

Dose: $^{99m}TcO_4$ - dose to thyroid 0.2 rads/mCi
Large Bowel 0.1 " "
Whole Body 0.01 " "
$^{99m}TcS_{(iv)}$ dose to liver 0.32 " "
to Whole Body 0.1 " "
$^{99m}TcS_{(s.c)}$ dose to skin 24 " " (max.)

1179667

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

CIRC# 15 Revised 9/7/72
Assigned on (date) _____

CLINICAL INVESTIGATION PROPOSAL (continued)

		YES *	NO
	F. Details of special materials or procedures.		
	1. Are any investigational drugs to be used (ones not in the USP or NNR)? On FDA approved list	. .	X.
	2. Is a drug listed in the USP or NNR to be used		
	a. in doses exceeding those listed?	. .	X.
	b. for purposes other than those listed?	. .	X.
	3. Are any biological products to be administered that do NOT bear on their containers or labels notations of approval by the Biological Control Division of the National Institutes of Health?	. .	X.
	4. Is external or internal radiation other than accepted diagnostic or therapeutic procedures to be administered?	. .	X.
**	5. Are any radionuclides to be administered?	X.	. .
	If yes, a. is the radionuclide form one listed in the USP? By EDA	X.	. .
	If yes, give nuclide and chemical form $^{99m}TcO_4$, ^{99m}TcS		
	b. is the radionuclide to be used within the doses and for the purpose approved in the USP.	X.	. .
	6. Are any other procedures to be used which exceed the ordinary diagnostic and therapeutic measures for the patient concerned and which may entail a hazard, discomfort or embarrassment to the patient?	. .	X.
***	7. a. Is a direct benefit to the patient to be expected?	X.	. .
	b. Will the study contribute to the diagnosis or treatment of the patient's own disease?	X	

8. I am familiar with the AEC requirement to abide by (a) the HEW's policies on institutional review of experiments involving human subjects and (b) FDA policies on investigational drugs and activities. This clinical investigation will be carried out in conformance with these policies. In particular, informed consent statements will be obtained.

Harold L. Atkins
Sponsoring Physician

Harold L. Atkins
Principal Investigator
9/8/72

* If any question 1 through 6 is answered yes, append a discussion of the potential hazards including pertinent literature citations (note that a yes answer to 5a & 5b is sufficient for question 5) or indicate where discussed in accompanying IND request.

** If answer to 5a or 5b is no, append a completed Supplementary Form on Radionuclide Administration (CIRC form 3-1 & 3-2, 4/15/71).

*** If answer to 7a or 7b is no, append explanation.

BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

CLINICAL INVESTIGATION PROPOSAL

SUPPLEMENTARY FORM ON RADIONUCLIDE ADMINISTRATION

CIRC# 15 Revised 9/7/72

Assigned on (date)_____

A. Radionuclide

1. Species: (Radionuclide or labeled compound, eg. ^{24}Na Cl or 1-^{14}C-glucose)
$^{99m}TcO_4^-$, ^{99m}TcS coll.

2. Physical characteristics: (Physical half-life; decay scheme or type, energy and relative frequency of major emissions, energies)

$T_{\frac{1}{2}}$ phys.=6 hrs. 140 keV γ with ~10% int. conv.

3. Source: (BNL reactor, cyclotron, hot lab., commercial supplier, etc.)

Hot Lab.

4. Preparation: (Target material, quantity, special problems)

Methyl ethyl ketone extraction from ^{99}Mo.

5. Specific activity and isotopic purity of administered material:

Carrier free, $\ll$.1% ^{99}Mo.

6. Radioassay and calibration procedures: (Include validation to be performed at BNL prior to use)

Nuclear Chicago mediac dose calibrator

7. Vehicle and route of administration:
normal saline (0.9%), 1% gelatin as stabilizer for colloid

8. Procedures for control of sterility and pyrogenicity: (Or note that commercially supplied isotopes are certified as ready for administration to human beings.)

Millipore filtration. Pyrogencity tested by outside lab at monthly intervals

9. Side effects, if pertinent: (such as pharmacological or toxic actions of the parent compound or vehicle, etc.)

None

B. Radiological Health Aspects:

1. Hazards to other patients and to personnel from external or internal radiation (e.g. mr/hr. at 1 meter):

None

2. Monitoring procedures, if necessary:

None

3. Special procedures for handling waste products, excreta, biological samples, etc., where indicated:

None

4. Plan for isotope accountability, if required:

None

1179669

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

CLINICAL INVESTIGATION PROPOSAL

SUPPLEMENTARY FORM ON RADIONUCLIDE ADMINISTRATION
(Continued)

CIRC# 15 Revised 9/7/72

Assigned
on (date) _____

C. Radiation Dosage

1. Biological half-life or half-lives, including slow components:
$^{99m}TcO_4$ - $T\frac{1}{2}$ biol ~3 hrs. ^{99m}TcS - $T\frac{1}{2}$ biol - ∞

2. Organ, cellular, or subcellular localization: (Should account for the effects of special drugs or agents on altering the natural distribution of the radioisotope)

   a. Critical or "target" organ(s):

   See below

   b. Gonadal exposure:

3. Sample calculations: (Dosage should be calculated for the whole body and for "target" or other separate organs, where indicated.) Prototype equations are desired; not extensive calculations. Where applicable, the Medical Internal Radiation Dose (MIRD) Committee's recommended methods (J. Nuclear Medicine Supplements) should be used. Otherwise, standard dosage equations from references such as Hine and Brownell's Radiation Dosimetry, and the National Bureau of Standards Handbook 69, should be used where possible and the reference cited.

$^{99m}TcO_4$	dose to thyroid	~ 0.2	rads/mCi	
	Large Bowel	0.1	"	"
	Whole Body	0.01	"	"
$^{99m}TcS_{(iv)}$	dose to liver	0.32	"	"
	to Whole Body	0.1	"	"
$^{99m}TcS_{(s.c)}$	dose to skin	24	"	" (max.)

1179670

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

CIRC No. 15 Rev. 9/7/72

PURPOSE OF REVIEW:

☐ INITIAL ☐ ADDENDUM

☐ REVISION ☒ RECERTIFICATION

☐ REACTIVATION

CLINICAL INVESTIGATION AUTHORIZATION FORM

TITLE: Clinical Use of ^{99}Tc as Pertechnetate and Sulfur Colloid

TO CHAIRMAN, CIRC:

THE PROPOSAL FOR CLINICAL INVESTIGATION IDENTIFIED BY THE ABOVE CIRC NUMBER AND TITLE IS FORWARDED HEREWITH FOR REVIEW AND RECOMMENDATION.

Consolidation of CIRC 15,15a and 15c including amendments

R.B. Aronson, Ph.D., Assoc. Chairman, Medical Deparment — Date 21 Sept '72

TO CHAIRMAN, MEDICAL DEPARTMENT:

THE CIRC REVIEWED THE ABOVE IDENTIFIED PROPOSAL ON Sept 8 1972 AND RECOMMENDS Approval

WITH THE FOLLOWING MODIFICATIONS:

That each of the consent forms alludes to:

a) problems of sterility of the solutions
b) " with pyrogens " " "
c) " of tisssue irradiation

J.S. ROBERTSON, Chairman

G.C. COTZIAS, Alternate Chairman

H.R. CONNELL

S.H. COHN

E.A. POPENOE, Alternate

R.A. LOVE

G. PRICE

G. CHIKKAPPA

N.P. RATHVON, Jr.

D.N. SLATKIN, Alternate

A.P. WOLF, Alternate

TO H.L. Atkins

THE ABOVE TITLED AND NUMBERED PROPOSAL IS approved SUBJECT TO THE FOLLOWING:

Consent forms 68, 69 & 70 are satisfactorily revised to meet CIRC comments and are tolerated

E.P. Cronkite 24 Oct '72

E.P. CRONKITE, M.D., Chairman, Medical Department — Date

CIRC Form 1 9/1/72

1179671

1936A

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

-8-

CONSENT FOR PROCEDURE, STUDY, OR
DRUG UNDER CLINICAL INVESTIGATION

NAME

UNIT NO.

PAVILION OP

I understand that the physicians at the Hospital of the Medical Research Center, Brookhaven National Laboratory are engaged in research and study of the nature of diseases and of new methods of diagnosis and treatment. I have been informed of the anticipated duration of hospitalization and the nature of the procedure, study, or drug under clinical investigation known as:

Thyroid scan with $^{99m}Tc^{04}$ (technetium 99m - pertechnetate)

Duration: approximately ½ hour

I understand that the nature of this procedure, study, or drug is experimental, and that at the present time no assurance can be given that my participation will be directly beneficial to me. I have been informed that the timing and sequence of these studies may not be revealed to me. I understand that in the opinion of the investigators responsible for this project and of the Review Board (Clinical Investigations Committee), I should be informed of the following possible hazards and inconveniences before agreeing to this clinical investigation:

Hazards: None known and none expected

Inconvenience: Intravenous injection

I have been informed of the above. I have also been informed of the customary procedures. These may or may not be used. I have been offered the opportunity for further discussion of this procedure, study, or drug with the attending physician.

I voluntarily consent to participate in the above studies with an understanding of the known possible effects or hazards that might occur in the course thereof, and with the further understanding that not all effects of such procedure, study, or drug are known.

PATIENT'S NAME _____

SIGNED BY: _____
(Patient or Legal Guardian)

WITNESS: _____

I, the undersigned, herewith affirm that I have explained the above to Mr. (Mrs.) (Miss) _____ and I am willing to answer further inquiries.

_____ M.D. DATE _____

1179672

Form 1913

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

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CONSENT FOR PROCEDURE, STUDY OR
DRUG UNDER CLINICAL INVESTIGATION

NAME

UNIT NO.

PAVILION OP

I understand that the physicians at the Hospital of the Medical Research Center, Brookhaven National Laboratory are engaged in research and study of the nature of diseases and of new methods of diagnosis and treatment. I have been informed of the anticipated duration of hospitalization and the nature of the procedure, study, or drug under clinical investigation known as:

Lymph node scan with ^{99m}Tc.

I understand that the nature of this procedure, study, or drug is experimental, and that at the present time no assurance can be given that my participation will be directly beneficial to me. I have been informed that the timing and sequence of these studies may not be revealed to me. I understand that in the opinion of the investigators responsible for this project and of the Review Board (Clinical Investigations Committee), I should be informed of the following possible hazards and inconveniences before agreeing to this clinical investigation:

Hazards: None expected. The injected material can, however, not be tested for sterility or pyrogens.

Inconvenience: Injection of the material

I have been informed of the above. I have also been informed of the customary procedures. These may or may not be used. I have been offered the opportunity for further discussion of this procedure, study, or drug with the attending physician.

I voluntarily consent to participate in the above studies with an understanding of the known possible effects or hazards that might occur in the course thereof, and with the further understanding that not all effects of such procedure, study, or drug are known.

PATIENT'S NAME _____ _____

SIGNED BY: _____ _____
(Patient or Legal Guardian)

WITNESS: _____ _____

I, the undersigned, herewith affirm that I have explained the above to Mr. (Mrs.) (Miss) _____ and I am willing to answer further inquiries

_____ _____ M.D. DATE _____

Form 1913

1179673

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

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CONSENT FOR PROCEDURE, STUDY, OR
DRUG UNDER CLINICAL INVESTIGATION

NAME

UNIT NO.

PAVILION OP

I understand that the physicians at the Hospital of the Medical Research Center, Brookhaven National Laboratory are engaged in research and study of the nature of diseases and of new methods of diagnosis and treatment. I have been informed of the anticipated duration of hospitalization and the nature of the procedure, study, or drug under clinical investigation known as:

Liver and/or spleen and/or bone marrow scan with colloidal ^{99m}Tc.
(technetium 99m- sulfur colloid)

Duration: Approximately 15 min. per picture. Up to 4 may be taken.

I understand that the nature of this procedure, study, or drug is experimental, and that at the present time no assurance can be given that my participation will be directly beneficial to me. I have been informed that the timing and sequence of these studies may not be revealed to me. I understand that in the opinion of the investigators responsible for this project and of the Review Board (Clinical Investigations Committee), I should be informed of the following possible hazards and inconveniences before agreeing to this clinical investigation:

Hazards: The radiopharmaceutical (^{99m}Tc- S colloid has not been tested for sterility or presence of pyrogens (substances that cause fever) because of the short physical half-life of technetium 99m. However, the system used for production is checked periodically.

Inconvenience: Intravenous injection.

I have been informed of the above. I have also been informed of the customary procedures. These may or may not be used. I have been offered the opportunity for further discussion of this procedure, study, or drug with the attending physician.

I voluntarily consent to participate in the above studies with an understanding of the known possible effects or hazards that might occur in the course thereof, and with the further understanding that not all effects of such procedure, study, or drug are known.

PATIENT'S NAME _____

SIGNED BY: _____
(Patient or Legal Guardian)

WITNESS: _____

I, the undersigned, herewith affirm that I have explained the above to Mr. (Mrs.) (Miss) _____ and I am willing to answer further inquiries.

_____ _____ M.D. DATE _____

Form 1913 1179674

Minutes CIRC Meeting

9 October 1972

Present: G. C. Cotzias, G. Chikkappa, H. R. Connell, R. A. Love, G. A. Price, N. P. Rathvon, Jr.

Absent: E. A. Popenoe

The meeting was held in the Small Conference Room of the Medical Research Center. Dr. Cotzias opened the meeting at 1400.

The minutes of the previous meeting of 10/2/72 were accepted as distributed.

CIRC #15 Revised 9/7/72, including 15,15a and 15c was approved with the qualifications that Consent Forms #6,#7, and #8 each contain a statement regarding the sterility or presence of pyrogens in the drug and indicate that a radioactive drug is being used.

CIRC's #52 and #53 were approved for annual recertification.

CIRC #54 was reviewed next. The Committee requests the proposal be clarified and resubmitted for approval. It is noted that the original proposal referred to a single patient but it appears that the procedure is being used for other patients as well. The proposal should indicate the number of patients to be included, the method of selection, and the expected benefits to the patients.

CIRC #56 was approved for recertification with the assumption that the only substantive change is the change in sponsoring physician. Confirmation of this from Dr. Atkins is requested.

The reply from Dr. Wallach to the question raised by the CIRC at the meeting of 21 August 1972 pertaining to CIRC #72 was accepted.

CIRC #88 was next discussed. Approval was granted provided that item 1, page 2 of the proposal, i.e. the neutron activation analysis is the only item for which approval is requested. Approval is conditional to:

1) The title of the proposal should more accurately describe the procedure. It is suggested it be changed to "In Vivo Neutron Activation Analysis on..etc."

2) Clarification of the care of the patients while they are at Brookhaven and of who shall take care of the patients in case of emergency.

The meeting was adjourned at 1520.

Respectfully submitted,

Helen R. Connell

Helen R. Connell

1179675

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

CIRC STATUS MEMO

CIRC No. 15 Rev. 9/7/72

Title: Clinical Use of ^{99}Tc as Pertechnetate and Sulfur Colloid

To: Dr. Atkins Date: 10/8/73

Please indicate below whether this proposal is continuing or inactive. If continuing, complete the entire form, and attach to this sheet copies of any reports submitted to the FDA, HEW, or other Granting Agency (in connection with this proposal and the IND numbers given), since the last CIRC approval date. Also please add any additional information which may be of use to the Committee in its deliberations. If inactive, merely sign and return this form.

If this form is not returned by 10/31/73, approval of the proposal will automatically be discontinued.

R.B. Aronson, Ph.D., Associate Chairman — Date: 8 Oct. '73

To R.B. Aronson,

CIRC PROPOSAL NUMBER 15 Rev IS: Continuing ☒ Inactive ☐

Proposed substantive changes are attached —

Adverse effects that have not already been reported to the Department Chairman include:

—

Since the last approval 314 patients have been submitted to the experimental regimen.

The Sponsoring Physician as of this date is Harold L. Atkins

The following changes in Investigators should be noted: A. Ansari

P. Bradley-Moore

The following IND#'s have been obtained for specific compounds used in this proposal:

Compound ^{99m}TcO$_4^-$ IND# 4316 Compound ^{99m}Tc S colloid IND# 4172

The investigational consent form(s) used in this project are numbered 87, 69, 70 and copies are attached.

Patients involved in this study are referrals from or also studied at the following institution(s)

Attach statement from institution(s) indicating the review committee approval is current.

Signed Harold L. Atkins 10/11/73 — Principal Investigator, Date

Harold L. Atkins 10/11/73 — Sponsoring Physician, Date

Form 1970A
CIRC Form 4 3/21/73

1179676

HOSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

CIRC STATUS MEMO

CIRC No. 15 Rev.

Title: Clinical Use of ^{99m}Tc Sulfur Colloid

To: Dr Atkins

Date: 4/10/78

Please indicate below whether this proposal is continuing or inactive. If continuing, complete the entire form, and attach to this sheet copies of any reports submitted to the FDA, HEW, or other Granting Agency (in connection with this proposal and the IND numbers given), since the last CIRC approval date. Also please add any additional information which may be of use to the Committee in its deliberations. If inactive, merely sign and return this form.

If this form is not returned by 4/30/78, approval of the proposal will automatically be discontinued.

Recap sheet attached

R.B. Aronson, Ph.D., Associate Chairman — Date 4/11/78

To R.B. Aronson,

CIRC PROPOSAL NUMBER 15R IS: Continuing ☒ Inactive ☐

Proposed substantive changes are attached 0

Adverse effects that have been first noted since the last approval include:

0

Since the last approval 44 patients have been submitted to the experimental regimen.

The Sponsoring Physician as of this date is Harold L. Atkins

The following changes in Investigators should be noted: delete Ausari & Klopper. Add H.L. Atkins as principal investigator

The following IND#'s have been obtained for specific compounds used in this proposal:

Compound ^{99m}TcS IND# 4172 Compound _____ IND# _____

The investigational consent form(s) used in this project are numbered 220, 180 and copies are attached.

Patients involved in this study are referrals from or also studied at the following institution(s)

Attach statement from institution(s) indicating the review committee approval is current.

Signed Harold L. Atkins 4/17/78
Principal Investigator — Date

Harold L. Atkins 4/17/78
Sponsoring Physician — Date

1179677

Form 1970A

OSPITAL OF THE MEDICAL RESEARCH CENTER,
BROOKHAVEN NATIONAL LABORATORY
Upton, New York 11973

CIRC No. 15 Rev.

PURPOSE OF REVIEW:

☐ INITIAL ☐ ADDENDUM

☐ REVISION ☒ RECERTIFICATION

☐ REACTIVATION

CLINICAL INVESTIGATION AUTHORIZATION FORM

LE:

Clinical Use of ^{99m}Tc Sulfur Colloid

CHAIRMAN, HSRC.

PROPOSAL FOR CLINICAL INVESTIGATION IDENTIFIED BY THE ABOVE CIRC NUMBER AND TITLE IS FORWARDED HEREWITH FOR REVIEW AND RECOMMENDATION.

Annual Recertification

E.P. Cronkite 24 Apr '78
E.P. CRONKITE, M.D., Chairman, Medical Deparment — Date

CHAIRMAN, MEDICAL DEPARTMENT:

HSRC REVIEWED THE ABOVE IDENTIFIED PROPOSAL ON 5/17/78 AND RECOMMENDS approval

H THE FOLLOWING MODIFICATIONS:

Revision to informed consent as indicated

U. REINCKE, Alternate

N.P. RATHVON, JR., Chairman

I. ZANZI

R. Doremus
R. DOREMUS

C.W. FLOOD, Alternate

J.P. STONE, Alternate

L.D. HAMILTON, Alternate Chairman

D.R. CHRISTMAN

G.A. PRICE, Alternate

Helen Connell
H.R. CONNELL

C.B. MEINHOLD

L. OWEN, Alternate

Marilyn Miller
M. MILLER

D.C. BORG

W. SHREEVE, Alternate

R.A. LOVE

D.D. JOEL, Alternate

P. Chandra.
P. CHANDRA, Alternate

rs. Atkins, Zanzi

OVE TITLED AND NUMBERED PROPOSAL IS Approved SUBJECT TO THE FOLLOWING:

Investigational consents 220 and 275 to be used on this CIRC.
Consent 275 has replaced 180.

E.P. Cronkite 22 May '78
E.P. CRONKITE, M.D., Chairman, Medical Department — Date

1179678

Dr. Chanana, A. Harrison, J. Matkovich

D