

# Lawrence Berkeley National Laboratory

## Recent Work

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RADIATION THERAPY UPDATE

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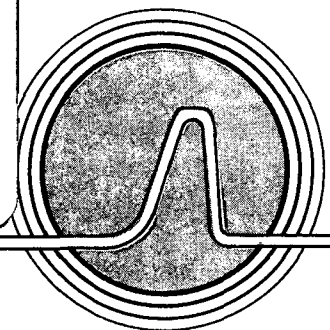
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# RADIATION THERAPY UPDATE

## For Reference

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RADIOTHERAPY SECTION - BUILDING 55  
LAWRENCE BERKELEY LABORATORY - UNIVERSITY OF CALIFORNIA, BERKELEY

PUB-352

Prior to the opening of Radiation Therapy Oncology Group (RTOG) and Northern California Oncology Group (NCOG) protocols, 124 patients were treated at LBL under Bay Area Heavy Ion Association (BAHIA) protocols. Since the closure of BAHIA protocols, patients have been accrued from the following institutions:

### RANDOMIZED PANCREAS PROTOCOL

Kaiser Hospitals	13
UC San Francisco	4
East Bay Oncology Group	3
Letterman Army Hospital	2
David Grant Med Ctr/Travis AFB	1
Mount Zion Hospital	1
UC Davis	1
Children's Hospital, S.F.	1
TOTAL:	26

### ESOPHAGUS PROTOCOL

Kaiser Hospitals	4
UC San Francisco	2
David Grant Med Ctr/Travis AFB	2
Stanford University Med Ctr	2
Mount Zion Hospital	1
Letterman Army Hospital	1
VA San Francisco	1
TOTAL:	13

### ALL SITES PROTOCOL

UC San Francisco	19
Mount Zion Hospital	13
Kaiser Hospitals	8
Naval Regional Medical Ctr	2
East Bay Oncology Group	2
Loma Linda University	1
Triangle Radiation Oncology Services (Montana)	1
Letterman Army Hospital	1
Stanford University Med Ctr	1
South Bay Oncology Group	1
TOTAL:	49

### OCULAR MELANOMA PROTOCOL (through UCSF)

Kaiser Hospitals	4
U. of Southern Florida Med Ctr	1
Good Samaritan Med Ctr, Portland, Oregon	1
Private Physicians in:	
California	6
Idaho	1
Arkansas	1
TOTAL:	14

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Patients may be referred for consultation and/or radiation therapy by phoning Joseph R. Castro, M.D. or Jeanne M. Quivey, M.D. (415) 486-6325 (FTS 451-6325) or by writing c/o Building 55, Room 105, Lawrence Berkeley Laboratory, Berkeley, California 94720.

LBL/BAHIA Protocols	124
LBL/NCOG Protocols	<u>102</u>
TOTAL:	226 patients

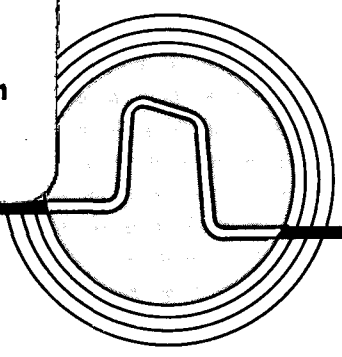
Currently the 184" cyclotron is treating patients with helium ions four days a week. The BEVALAC is also treating patients four days a week with just a few scheduled down days between now and the end of August, when a new schedule will be distributed. For the month of May, the BEVALAC will be accelerating neon from May 1-16. Argon will be used for radiation therapy during the week of May 20-23, followed by a short machine shutdown the week of May 27-30. Starting the first week in June, the BEVALAC will reopen for accession of patients using neon ions. This schedule will continue through July 3. There will be no BEVALAC treatments the week of July 7-11, but starting July 14, neon will again be accelerated through most of August. Priority target sites for treatment at the BEVALAC include: Brain (primary and metastatic tumors); carcinoma of the pancreas (not eligible for randomized study); selected head and neck tumors; soft tissue and bone sarcomas; carcinoma of the stomach and esophagus; and advanced carcinoma of the bladder and prostate. Both carbon and neon can be used for irradiation of multiple skin and subcutaneous nodules, and multiple pulmonary metastases for clinical radiobiologic studies. Continued target sites for helium irradiation include carcinoma of the pancreas (randomized study); carcinoma of the esophagus; carcinoma of the stomach; ocular melanoma; selected head and neck tumors; and localized soft tissue sarcoma.

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# Radiation Therapy UPDATE

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The Heavy Particle Therapy Research Project at LBL has been notified of continuing Department of Energy and National Cancer Institute support for the next project period.

To date the charged particle radiotherapy trial at LBL has accrued 450 study patients. Of these, 28 were treated with low LET photon radiation at cooperating radiotherapy facilities as part of the control arm of the randomized pancreas protocol. In all, therefore, 422 patients have received radiation therapy with helium or heavy charged particles at LBL:

Protocol	Ion	No. of Patients
LBL- BAHIA Pilot studies	He	119
Esophagus Nonrandomized	He,Ne	28
Ocular Melanoma Nonrandomized	He	75
Pancreas Randomized	He	32 28 (controls)
VASOG Pancreas	Ne,He	16
Phase I-II (Brain, Head & Neck, Pancreas, Gastric, Other)	He,C,Ne,Ar	152

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### Summary of results:

*Esophagus* — Because of the apparent lack of advantage of helium ion irradiation over low LET irradiation, we have proceeded with a Phase II study using neon ions.

*Ocular Melanoma* — This study will continue to accrue patients at a rate of about 25- 35 patients per year, in order to study different dose- fractionation schemes for tumors close to the fovea centralis and/or optic nerve. Tumor control and vision preservation to date has been excellent.

*Pancreas* — Since it does not appear that a significant clinical difference between helium and low LET XRT is present in the randomized study, a new protocol is being written to compare heavy particle (neon) XRT to helium or low LET XRT. Multi- drug chemotherapy (FAM) is under consideration for all arms. Pilot patients will be treated under the 0R81 Phase I-II protocol at LBL.

*Gastric* — Lack of patient accrual has forced closure of this protocol. We propose to include these patients in the above mentioned pancreas (and gastric) protocol after pilot studies are completed at LBL.

In addition, we are seeking patients with advanced head and neck, advanced pelvic (especially bladder) and brain tumors for Phase I- II heavy particle studies.

Heavy particles were not available for most of last year due to liner replacement of the Bevalac. Beginning in late March, the Bevalac will become operational and will continue through July 1982. The Bevalac will be down during August and September but will resume operation around 1 October 1982. We anticipate significant beam time at the Bevalac during the next fiscal year which should allow us to accrue about 100 patients given adequate patient referral.

As before, during Bevalac down periods the helium beam will be available for treatment of patients with ocular melanoma, chordoma, tumors close to the spinal cord or other critical structures, pancreas tumors, gastric tumors and localized, unresectable soft tissue tumors.

Patients may be referred for consultation and/or radiation therapy by phoning Joseph R. Castro, M.D. or William M. Saunders, M.D. (415) 486- 6325 (FTS 451- 6325) or by writing c/o Building 55, Room 105, Lawrence Berkeley Laboratory, Berkeley, California 94720.

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