Breast-Screening

THE CANCER RESEARCH EDUCATION CONTROL LETTER

P.O. BOX 2370 RESTON, VIRGINIA TELEPHONE 703-620-4646

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QUESTIONS STILL SURROUND 88 BCDDP PATIENTS FOUND WITH MINIMAL CANCER; DCCR ASKS FOR ANOTHER REVIEW

The Beahrs Working Group report on the Breast Cancer Detection Demonstration Projects that 66 cases previously thought to be minimal cancer actually were benign aroused a flurry of indignation at the Consensus Development meeting last month.

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In Brief

CARCINOGENESIS TASK FORCE TO WRAP UP REVIEW IN FOUR-SIX WEEKS; UCLA GROUNDBREAKING SET

TASK FORCE reviewing NCI's Carcinogenesis Program has been meeting once a week since it was established last month, listening to descriptions of various elements of the program. Chairman Alan Rabson said there will be at least four or five more meetings. The group has been getting an overview of everything NCI is doing in carcinogenesis, including grants it is supporting, the organ site task forces, the contract efforts out of the Div. of Cancer Cause & Prevention, and intramural research. Rabson said he doubted the group would prepare a definitive report on the program. "The major thing we will offer (when the review is completed) is that we will have a group of serious, knowledgeable scientists on campus which the NCI director can call on for advice," Rabson said. . . . **CONTINUING RESOLUTION** which provided funds for HEW during October while Congress continued to wrangle over the regular appropriation bill did permit award of new grants and contracts, as long as expenditures for the month did not exceed 1/12th of the total budget for FY 1977. The deadlock over abortion funding had not been resolved this week at press time. Key senators insist now that the continuing resolution will not be renewed and that the issue will have to be settled; if it is not, HEW payroll and grants and contracts again will be in jeopardy. . . . **HEW HAS CRACKED** down on Industrial Bio-Test Laboratories, of Northbrook, Ill., pending investigations by FDA, NCI, Environmental Protection Agency and the HEW inspector general. IBT is a subcontractor in NCI's Bioassay Program through prime contractor Tracor JITCO. HEW Secretary Joseph Califano told NCI to review IBT's performance "to determine whether action should be taken to have the subcontract terminated." The firm allegedly made misstatements, misrepresentations and omissions of data in reports, Califano said. . . . **GROUNDBREAKING** for the 17-story building at the UCLA Center for the Health Sciences will be Nov. 30. The building will house the Jonsson Cancer Center, the School of Nursing, School of Medicine facilities and an expanded biomedical library. It will cost $22.2 million—$9.4 million in federal funds (from NCI and the Bureau of Health Manpower's Div. of Nursing), $2.7 million in state money and $10.1 million in private gifts to UCLA.

DCCR, ADVISORY COMMITTEE DISAGREE ON INSISTING THAT WOMEN BE INFORMED

Members of the lay press, other observers and some of the consensus panel members were upset by the fact that those 66 women apparently underwent unnecessary treatment for breast cancer, mastectomies in most cases. Another 22 cases which previously were diagnosed as minimal cancer (less than 1 centimeter) were determined by the Beahrs review to be borderline, or questionable. Most of those women also received standard treatment for breast cancer.

One of the panel's recommendations was that NCI should notify each of those 88 women that the subsequent (Beahrs) pathology review had determined that their "cancers" were either benign or questionable.

Some congressional committees have asked NCI for more information on this situation, and freedom of information requests seeking identity of the project centers involved are starting to pile up.

The last word on those 88 cases is still to be said, however. Here are some further developments, as reported to the Div. of Cancer Control & Rehabilitation Advisory Committee at its meeting this month:

- Another, more careful and more thorough review of each of the 88 cases is under way. Indications are that some of them will turn out to be proven cancers after all.
- In two thirds of the 66 cases, the original diagnoses were recognized by the attending physicians to be questionable, and concurrent pathology reviews were obtained.
- Most of the 88 patients were informed that it was not certain that they had cancer; most of them participated in the treatment decisions.

The 88 cases were found in a review by the Beahrs group of 506 cases recorded by the BCDDP centers as minimal carcinomas. While the 66 cases that may have been benign represented 13% of those diagnosed as minimal carcinomas, Chairman Oliver Beahrs pointed out that they were less than 2% of the total number of diagnosed cancers in the entire project.

Robert McDivitt, professor of pathology at the Univ. of Utah School of Medicine, was chairman of the Beahrs Pathology Review Subgroup.

DCCR Director Diane Fink told the advisory committee that the slides on the 506 cases were collected by BCDDPs and forwarded to NCI in somewhat of a hurry earlier this year. It is possible that some slides were not "representative" and some may have even been mixed up with other cases, Fink said.

Each member of McDivitt's subgroup reviewed every slide, then the group met to compare findings. All agreed on the 66 cases; no consensus was developed on the 22, although a majority agreed that they were benign.

"We're in the process of returning the slides to the centers to compare with those the diagnosis was made from," Fink said. "We feel it is not prudent now to make any notification (to the pateints) until all information is in."

Fink said there were two problems to consider: First, was the proper slide sent to NCI for review? Second, were the proper medical procedures followed?

"Some of the women requested mastectomies. Many of the physicians involved brought their patients into the decisions. We need some advice now. Where do we go from here?"

The advice Fink sought relating to the 66, or 88, possibly benign or borderline cases was what to do about the consensus panel's recommendation that each of those women should be notified of those facts.

A. Hamblin Letton, secretary director of the Southeastern Surgical Congress in Atlanta, is a member of the advisory committee. He is also director of one of the BCDDPs. "I have never received a penny for that job," he said. "I took it on because I thought the project was good for the community and for the country.

"We had seven of these slides returned to us. Several folks down home are right upset about this.

"Someone has to draw a line between benign and cancer," Letton continued. "It is sometimes terribly hard to draw that line. . . . Who is to say that, if a lesion is benign today, it won't be a cancer tomorrow?

"Our slides were sent in an awful hurry. In one case, we sent a girl to get the slides on Mrs. Smith, and we had to put them on an airplane without the pathologist looking at it."

Letton said that two of his seven questionable cases, in which the original pathology report indicated they were minimal cancers, were "delayed affairs"—that is, treatment was delayed while additional opinions from other pathologists were sought. Ironically, McDivitt was the pathologist who reviewed two of the slides, while the patients were waiting word on whether or not they had cancer.

"McDivitt said then they were cancer," Letton said. "Now he says they are not."

One of his patients who was a borderline case was a member of a family in which others had had cancer, and some of her friends had had cancer, Letton said. "One pathologist said her lesion was a cancer, and one said it was not. She asked for a mastectomy," Letton said.

"As for the matter of us notifying the women, that would just tear up the situation," Letton insisted. He pointed out that the screening centers do not make a diagnosis of cancer. Information the centers develop is forwarded to the patient's physician. "If anyone insinuates that a doctor did a mastectomy knowing his patient did not have cancer, it is terribly inaccurate. If we send letters willy nilly, we'll never get the cooperation of physicians again."

Beahrs agreed. "It is extremely important that the handling of this goes from NCI to the projects, and from the projects to the pathologists and the managing physicians and surgeons. The physician or surgeon can use his best judgment on handling it as he sees fit. It would be inappropriate any other way. DCCR and NCI should not accept any further responsibility than to notify the project director," Beahrs said.

"If one of my patients had what we thought was cancer but it really was benign, she would be terribly relieved to find out it was benign," Letton said. "But I'm the one to tell her, not a letter from Washington."

"It wasn't our idea for NCI to write directly to the women," Fink said.

Committee member Diane Komp said, "For NCI to contact the patient directly would violate her privacy, as agreed upon when she went into the project."

"We went through this same thing 25 years ago with cancer of the cervix," said committee member Saul Gusberg. "Carcinoma in situ, borderline lesions. The broader you make the definition of cancer, the more cancer you can cure."

Fink said that she would ask the Beahrs group to "do one more monumental task" and review the 8[illegible] cases again. "We agree on one major question—that we will notify the project directors (when that review is completed) of any still determined to be benign, and require them to notify the patients."

The committee did not agree, however, Beahrs offered a motion that after "careful review and all clinical and pathological and detection data has been collected and after further consideration by the working group of all cases in which there continues to be a concern, the projects be notified and required to notify the managing physician, that he consider discussing it with his patient." The committee approved the motion, after considerable discussion.

"Do the legal folks have any problem with the word 'consider'?" committee member Maurice Reizen asked. Fink agreed to refer that question to NIH legal counsel.

The committee's action thus would leave it up to each woman's physician whether or not she should be told that she did not have cancer. The prospect that some might choose not to do so weighs heavily with some NCI staff members.

"I think those women have to be told," Fink said. "It has all sorts of implications for them, and their families. If they didn't have breast cancer, it has implications for their daughters, and sisters."

Fink said that while NCI did not have any right to require physicians to inform their patients, the institute could insist that BCDDP directors do so.

Fink asked the committee for advice on three other recommendations of the Consensus Panel and the Beahrs Group—modification of the BCDDP mammography guidelines, whether to discontinue the use thermography in the projects, and whether or not to carry out long term followup on women participating in the project, either limiting followup to those with cancer or following all 280,000.

On modification of the guidelines for mammography—the committee agreed with the Beahrs recommendation, that mammography for asymptomatic women ages 40-49 be limited to those with a personal history of breast cancer or whose mothers or sisters have a history of breast cancer; and to women under age 40 who have a personal history of breast cancer. Mammography would continue to be used for women over 50 in the project.

On thermography—the committee supported the discontinuation of the procedure as a routine step in the projects. However, the committee agreed that it could continue to be used as a prescreen for mammography at a selected few centers for further evaluation.

On followup—the committee agreed that followup of those women with cancer should be continued. But a motion to defer until the committee's next meeting a decision on whether or not to follow all 280,000 women in the project was approved.

The Beahrs group had recommended that the entire cohort not be followed, primarily because it was felt that the number was not sufficient to provide valid epidemiological data. "That would be a very small number of cases, which could be obscured by background noise," commented Sam Shapiro, chairman of the Beahrs Epidemiologic & Biostatistical Review Subgroup.

Nevertheless, Shapiro agreed that women in the project offered "a tremendous resource to investigate a variety of issues. One of the important reasons for continuing the working group is to investigate these possibilities thoroughly. Our final report will have a recommendation for followup of subgroups."

Letton asked, "Is it an admission that the radiation risk is so low to 280,000 women that it doesn't make a difference?"

"No, the numbers game can be tricky," Shapiro answered.

Fink pointed out that the original plan was to follow all women for five years after the project ended.

"One point bothers me," Beahrs commented. "Is there an obligation to these women (to do the followup), if there is a benefit to them, considering that was part of the original agreement?"

Richard Costlow, chief of DCCR's Detection, Diagnosis, & Pretreatment Evaluation Branch, said he had asked NIH legal counsel for an opinion on that question. "They said we don't have to continue something just because we said we would," was Costlow's astonishing remark. Committee members groaned loudly.

Costlow explained that counsel had said ("although we don't have it in writing") followup was

a contractual obligation, and that the government had to be permitted some leeway if there is a change in technology which rendered useless or unnecessary any implied obligation.

Shapiro said he did not see that there would be any specific benefits of followup to individual women, and that to determine what risks there might be would require 20 years of followup.

"One of the benefits might be clearing a woman of cancer," Gusberg said. "Would this confer any safety factor on them?"

"All consideration lead to the conclusion that after screening, women in the program in succeeding years will return to the same breast cancer incidence as they would have without screening," Shapiro said. "There is no prevention factor involved."

SUBCOMMITTEE CHAIRMAN CRITICIZES DCCR FOR LACK OF "GAME PLAN" IN PREVENTION

The DCCR Advisory Committee has a Subcommittee on Prevention that is supposed to help the parent group develop the advice it will give NCI on how to implement cancer control through prevention.

The subcommittee has been chaired for the last two years by Maurice Reizen, director of the Michigan Dept. of Health. Before that it was headed by Louis Fink (no relation to DCCR Director Diane Fink), a layman whose primary interest in prevention consisted of an extreme antipathy toward the tobacco industry.

Under Fink's chairmanship, the subcommittee's reports to the parent committee were dominated by suggestions for eliminating cigarettes as a health menace which, however commendable, were mostly impractical.

Reizen's reports generally have been along the line that the subcommittee didn't have much time to do anything and that he hoped to have more to report at the next meeting.

That next meeting finally came this month, and Reizen's report stung a few ears.

Noting that Saul Gusberg was the only other member of the subcommittee to attend an all-day briefing from NCI staff members on the institute's various prevention activities, Reizen said, "None of us has any idea what the game plan is for prevention. There is a lack of any clear cut direction. . . . If the mission is as mandated in the National Cancer Plan, then I think we've failed."

Reizen complained about "gaps and overlaps" in interagency coordination, within NCI and within the Div. of Cancer Cause & Prevention. On smoking, "DCCP is doing some work in this area. We (DCCR) funded the Clearinghouse on Smoking & Health (an agency in HEW's Center for Disease Control) for two or three years. Does this fit into our mandate? If someone else is doing it, we should get out."

On food additives, "Sure you can say FDA has the responsibility. But there is nothing to stop us from seeing if they are doing their job. We can either view with alarm or dangle some money in front of them."

On screening, "Our basis for selection of screening programs is poorly defined. We react. There is no policy. We've performed poorly.

"I see two roles for us, or tasks," Reizen continued. "They can go forward at the same time, maybe not at the same pace. First, we should develop a plan for the subcommittee." Noting that the last major overall planning effort for DCCR was in 1973, Reizen said "it's time to take a new look. Second, we can't ignore what's coming at us. We have to stay alive in today's world. We should explore the needs involved in smoking. We should explore the needs of OSHA, and NIOSH."

William Shingleton, chairman of the parent committee, agreed that a "lack of identity" may be contributing to overlaps. He mentioned the organ site programs and screening for colorectal and bladder cancer as overlapping efforts. "Who is supposed to be doing what?" Shingleton asked. "We have a problem of technology transfer, not only from DCCR to the outside world but from one NCI division to another."

Diane Fink pointed out that the chairman of the bladder cancer organ site program is Gilbert Friedell, who also will be chairman of the upcoming conference on bladder screening.

Gusberg said the question, "How do we relate to other NCI divisions?" recurred throughout the briefing. "Our role should be one of coordinator rather than collaborative," he said.

On another issue, "I take exception to mortality being held up as the only criteria for determining the success of an effort," Gusberg continued. "In the Breast Cancer Detection Demonstration Project, one of the most significant benefits may be the trend to more conservative surgery. That would be a major benefit to women with breast cancer."

Fink said the issue of smoking is "one of the toughest" problems with which she must deal, "As the advisory committee to the Cancer Control Program, you have to set up a guide I can use when someone comes to me and says, 'Why don't we have X, Y, Z to meet the smoking problem?' "

FULL CLEARINGHOUSE MEETS OCT. 30; PICLORAM EVALUATION DRAWS ARGUMENT

The Clearinghouse on Environmental Carcinogens next Monday, Oct. 31, will hold its first meeting of the entire membership since it was organized a year ago. The meeting will start at 9 a.m. in NIH Building 31 Room 10 and is open to the public.

The three subgroups of the Clearinghouse have been meeting regularly in tackling the responsibilities assigned them—advise NCI on selection of chemicals to be tested for carcinogenicity; determine if those tests are properly designed and executed; and evaluate results of those tests and determine if they dem-

onstrate risk to humans.

The Clearinghouse membership is a mix of scientists and industry, labor and consumer representatives, along with ad hoc members from various federal government agencies. Not surprisingly, in the subgroup deliberations the scientists have argued on the basis of science, the labor representative from the standpoint of exposure of working people to carcinogens and suspected carcinogens, the consumer reps from the standpoint of exposure of everyone.

Industry representatives, at least as far as ***The Cancer Letter*** has observed, have not been so assertive about their constituency. And the government representatives appear chiefly concerned about what is possible.

The most recent meeting of the Data Evaluation/-Risk Assessment Subgroup offered an example of a clash between science and labor on the interpretation of a test result.

Clearinghouse Chairman Arnold Brown, who is a member of the subgroup, reported on his review of the test conducted in NCI's Bioassay Program on picloram, a systemic herbicide to control broadleaf plants. The chemical persists in remaining in the soil, and contaminates water supplies.

The bioassay report noted that there was an increased incidence of hepatic neoplastic nodules in test animals and that the nodules were benign. The conclusion was that the test suggests that picloram has an ability to induce benign tumors in female rats.

Brown said in his opinion the primary shortcoming of the test was the small number of controls used. Also, interpretation of the biological significance was not reviewed sufficiently, "which is of critical importance," Brown said. "The conclusion that the test only 'suggests' (a causative factor) is inordinately conservative."

Brown said the test supports a finding that picloram is a carcinogen, but that further tests are needed. "Program was remiss in not having additional pathologists look at the controversial growths."

Sheldon Samuels, AFL-CIO director for health, safety & environment, asked if there was any question that the chemical produced the lesions. Richard Griesemer, director of the Bioassay Program, said there was none.

"Dr. Upton said he wanted us to give him yes or no answers," Samuels said. "Under those ground rules, this is a carcinogen."

Griesemer answered that "these nodules may be premalignant, and they may not. It would be difficult to support a carcinogenesis finding in court."

"On a yes or no basis," Brown said, "this is a maybe."

"We can't have a maybe," Samuels insisted.

"We have one here," Brown said.

"It's not a maybe if the chemical caused the lesion," Samuels argued. "The report can say that the characteristics of the lesion were not agreed upon, but note that it was caused by the chemical."

"I'm suggesting that in this critique, when we have a compound with an impurity, used in large doses, we should know what the impurity is," Brown said.

"To protect the public, we don't need to know," Griesemer said.

Subgroup Chairman Gerald Wogan said that a conscious decision had to be made either to test the pure compound or the technical grade (with impurities) which is what humans come into contact with.

"We're a clearinghouse on carcinogens, not a clearinghouse on lesions," subgroup member Michael Shimkin commented. "We wrote a statement on that (the criteria for assessing the carcinogenicity of a chemical, as written by the National Cancer Advisory Board's Subcommittee on Environmental Carcinogenesis). The fings of this test do not indicate carcinogenic activity. But we can say, 'However, . . .' "

Brown pointed out that the test did turn up some hepatic carcinoma in female rats. Shimkin responded that is was only 2%, which he said was statistically insignificant.

"True, but it is a red light flashing," Brown said. "The Chemical Selection Subgroup may want to consider further tests."

"Okay, further tests. But on the evidence here, no court would find it a carcinogen," Shimkin said.

"We shouldn't worry about the coursts," Samuels said. "It depends on what district you're in. You worry about the science, let someone else worry about the courts."

Shimkin said that "If you really feel the pathology needs to be redone, we shouldn't go any further."

"We can't table a report," Brown said. "Program doesn't have to accept what we recommend. This recommendation will go to program. They may decide to review the pathology, or not review it, or take a look at the 10% impurity. If program takes no action, then this position goes into the report as an addendum. We don't want this to hold up the final report of this bioassay."

"The reaction time of the regulatory agencies is measured in decades anyway," Samuels said. "We can wait for a new pathology review. Maybe the next generation of regulators will take action, to expose or not expose, our great grandchildren to this chemical."

The subgroup approved Brown's recommendation to review the pathology without dissent.

ADVISORY GROUP, OTHER CANCER MEETINGS FOR NOVEMBER, DECEMBER

American Society of Therapeutic Radiologists—Nov. 1-5, Denver Hilton.

Cancer Center Directors—Nov. 2-4, Memphis Hyatt Regency.

Clearinghouse on Environmental Carcinogens Chemical Selection Subgroup—Nov. 1, NIH Bldg 31 Room 4, 8:30 a.m., open.

Clearinghouse Experimental Design Subgroup—Nov. 2, NIH Bldg 31 Room 4, 8:30 a.m., open.

Virus Cancer Program Annual Joint Working Conference—Nov. 2-4, Hershey, Pa., Motor Lodge, 9 a.m. each day, open.

Clinical Cancer Investigation Review Committee—Nov. 7-9, NIH Bldg 31 Room 6, open Nov. 7, 9—10 a.m.; Nov. 8, 8:30 a.m.—noon. (Mini-symposium on staging—clinical, operative, pathologic.)

Recent Advances in Cancer Management—Nov. 7-8, Williamsburg, Va.

Immunotherapy of Human Cancer—Nov. 9-11, Shamrock Hilton, Houston.

Anesthesia in the Cancer Patient—Blood Pressure Problems—Nov. 10, Roswell Park continuing education in oncology, contact Claudia Lee.

Cancer, A Cooperative Concern for Care—Nov. 10-11, Yale, contact Marion Morra, 205-436-3779.

Cancer Control Community Activities Review Committee—Nov. 10-11, NIH Bldg 31 Room 10, open Nov. 10, 8:30—9 a.m., 2—5 p.m.; Nov. 11, 8:30 p.m.—adjournment.

Children & Cancer—Nov. 10, Newton, Mass., Marriott, sponsored by Sidney Farber Cancer Institute and Social Work Oncology Group. Contact Marion Stonberg, 44 Binney St., Boston 02115.

NCAB Subcommittee on Environmental Carcinogenesis—Nov. 13, NIH Bldg 31 Room 6, 7:30 p.m., open.

National Cancer Advisory Board—Nov. 14-16, NIH Bldg 31 Room 6, open Nov. 14, 1 p.m.—adjournment; Nov. 15, 9 a.m.—noon and 2:45 p.m.—adjournment; Nov. 16, 9 a.m.—adjournment.

NCAB Subcommittee on Construction—Nov. 14, NIH Bldg 31 Room 6, 8:30—9:15 a.m., closed.

NCAB Subcommittee on Centers—Nov. 14, NIH Bldg 31 Room 6, 9:15—10:30 a.m., closed.

NCAB Subcommittee on Planning & Budget—Nov. 14, NIH Bldg 31 Room 6, 10:30 a.m.—noon, open.

Combined Modality Committee—Nov. 14-15, NIH Bldg 31 Room 4, open 8:30—9 a.m. both days.

Developmental Therapeutics Committee—Nov. 16, Blair Room 110, open 9:30 a.m.—noon.

Committee on Cancer Immunotherapy—Nov. 17, NIH Bldg 10 Room 4B14, open 1:15—1:45 p.m.

Cancer Control, Prevention, Detection, Diagnosis and Pretreatment Committee—Nov. 17-18, Blair Room 110, open Nov. 17, 8:30 a.m.—2 p.m.

Cancer Centers Support Grant Review Committee—Nov. 18-19, NIH Bldg 31 Room 6, open Nov. 18, 8:30—10 a.m.

Clearinghouse Data Evaluation/Risk Assessment Subgroup—Nov. 28, NIH Bldg 31 Room 6, 8:30 a.m., open.

Committee on Cancer Immunotherapy—Dec. 1, NIH Bldg 10 Room 4B14, open 1:15—1:45 p.m.

National Large Bowel Cancer Project Working Group—Dec. 1-2, Anderson Mayfair, Houston, open Dec. 1, 7:30—8:30 p.m.

Assn. of Community Cancer Centers—Dec. 1-2, Detroit Plaza, regional meeting on hospice and continuing care, contact David English, Michigan Cancer Foundation, 110 E. Warren, Detroit 48401.

State of the Art Conference on Bladder Cancer Screening—Dec. 5-7, Dulles Marriott, Washington, D.C., 9 a.m.—5 p.m. Dec. 5 and 6, 9 a.m. —adjournment Dec. 7, all open.

President's Cancer Panel—Dec. 6, NIH Bldg 31 Room 7, 9:30 a.m., open.

Diagnostic Research Advisory Group—Dec. 6-8, NIH Bldg 31 Room 6, open Dec. 6, 8:30—11 a.m.

Adolescent Oncology—Dec. 8, Roswell Park continuing education in oncology.

National Bladder Cancer Project Working Cadre—Dec. 8-0, Dulles Marriott, open Dec. 8, 8:30 a.m.—noon.

Committee on Immunodiagnosis—Dec. 12, NIH Bldg 10, Room 4B14, open 1—1:30 p.m.

Clinical Cancer Program Project Review Committee—Dec. 12-14, NIH Bldg 31 room 8, open Dec. 12, 9—10:30 a.m.

Committee on Cancer Immunobiology—Dec. 13, NIH Bldg 10 Room 4B14, open 2—2:30 p.m.

Cooperative Group Chairmen—Dec. 14, NIH Bldg 31 Room 7, 8:30 a.m., open.

NCAB Subcommittee on National Organ Site Programs—Dec. 14, NIH Bldg 31 Room 9, open 10:30 a.m.—adjournment.

Cancer & Nutrition Scientific Review Committee—Dec. 14, NIH Bldg 31 Room 4, open 8:30—9 a.m.

Virus Cancer Program Scientific Review Committee—Dec. 14, Landow Bldg Room C418, open 9—9:30 a.m.

Role of Rehabilitation in Cancer—Dec. 15, Roswell Park continuing education in oncology.

Committee on Cancer Immunotherapy— Dec. 15, NIH Bldg 10 Room 4B14, open 1:15—1:45 p.m.

Clinical Trials Committee—Dec. 15-16, NIH Bldg 31 Room 8, open 8:30—9 a.m. both days.

Carcinogenesis Program Scientific Review Committee—Dec. 15-16, Landow Room C418, open 8:30—9 o.m. both days.

Clearinghouse Chemical Selection Subgroup—Dec. 19, NIH Bldg 31 Room 6, 8:30 a.m., open.

Clearinghouse Experimental Design Subgroup—Dec. 20, NIH Bldg 31 Room 6, 8:30 a.m., open.

CONTRACT AWARDS

Title: Thermography evaluation, extension
Contractor: Thomas Jefferson Univ., $192,784.

Title: Production of oncogenic or potentially oncogenic viruses, continuation
Contractor: Electro-Nucleonics Laboratories Inc., $650,000.

Title: Production of avian and mammalian oncogenic viruses and antisera, continuation
Contractor: University Laboratories Inc., $341,820.

Title: Preparation, characterization and distribution of antisera to oncogenic viral antigens, continuation
Contractor: Huntingdon Research Center Inc., $497,631.

Title: Administrative support services for the Div. of Cancer Biology & Diagnosis, continuation
Contractor: Kappa Systems Inc., $28,500.30.

Title: Preparation and analysis of cell surface protein (CSP) fraction
Contractor: Univ. of Illinois Medical Center, $53,930.

Title: Surface chemical characterization of a transformation sensitive cell surface glycoprotein and its interaction
Contractor: Eye Research Institute of Retina Foundation, Boston, $71,276.

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