UNIVERSITY

Radiation Safety Office

March 17, 2008

Sandra Gabriel, Ph.D., DABR
Sr. Health Physicist
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19102

Mail Control No. 141906

Dear Dr. Gabriel;

Thank you for taking time to answer my questions late Friday afternoon. In our conversation you agreed with my assertion that a license amendment is not necessary for Philadelphia Health and Education Corporation to release of temporary implant (eye plaque) patients, but you added the caveat that the interpretation of this requirement will soon be that of the Commonwealth of Pennsylvania and not the Nuclear Regulatory Commission.

In our conversation you raised two issues which you wanted me to address.

1. It is routine procedure to provide eye plaque patients with a shielded eye patch and instructions to wear it.

2. The building at 840 Walnut Street is used exclusively by Wills Eye Institute. There are no other byproduct material licensees in the building.

You also raised additional issues in an e-mail dated March 16, 2008.

1. Clearly it is important that the patient returns at the designated time. There are several procedures that will be implemented to this end:
   - The rehabilitation facility will be provided with a list of patients being housed there and the return schedule for eye plaque removal.
   - The rehabilitation facility will provide shuttle service from their facility to Wills Eye Institute. Patients staying at home will need to show dependable means of transportation.
   - Patients will be asked to provide emergency contact information (e.g., cell phone number of family member or a close acquaintance).

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www.drexel.edu

- Instructions provided to the patient, family member, and/or caretaker will include return time and emphasize importance of returning when scheduled.

Further, inherent to typical eye plaque administration, there is a wide time window for removing the sources. Typical implants last 4 days (~96 hours) so the threshold for a medical event is ± 20% or ~19 hours. This allows significant time to locate the patient.

2. Patients staying at the rehabilitation facility are more like staying at home than in an in-patient nursing facility. The rehabilitation facility is a retirement condominium building with three levels of care – active retirement living, assisted living and skilled nursing care. They are adding a short term rehabilitation level of care for eye plaque patients. Patient "rooms" are essentially studio or 1 bedroom apartments. The apartments have full size sofa-beds so a family member can stay with the patient comfortably (but at a distance). Televisions are provided in the bedroom and the living room, which allows for maintaining distance. Each apartment includes a small kitchen and dining area so meals can be prepared in the room. The facility has dining facility and meals are included in the cost of the facility. Each apartment includes emergency call features, including pull cords in the bathroom and bedroom. The emergency call is also activated if the phone receiver is off the hook. There is on site nursing staff available 24 hours per day. But it is not anticipated that these patients will need routine or extensive nursing care.

   Training will be provided to the nursing and housekeeping staff assigned to cover these patients as well as appropriate management at the facility. Nursing staff will be monitored for radiation exposure at least initially to demonstrate that doses are minimal. But it is expected that it will not be necessary to continue to monitoring.

3. We have developed draft instructions which are enclosed herewith.

If you have any further questions or need any additional information, please feel free to contact me.

Sincerely,

Kent Lambert, M.S., CHP
Radiation Safety Officer

Radiation Safety Precautions

The eye plaque stitched to your eye contains several small metal pellets or seeds that are radioactive. Each seed is about 1/3 of an inch long as shown in Figure 1. Figure 2 shows an eye plaque and the radioactive seeds.

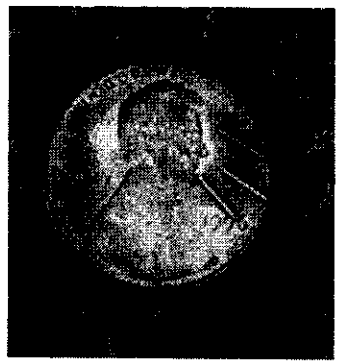

Figure 1 - Radioactive Seeds

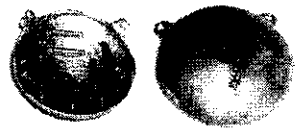

Figure 2 – Eye Plaque

There are 3 ways you can reduce radiation exposure to other people.

1. You can minimize the amount of time near other people.
2. You can keep your distance from other people.
3. You can use shielding to absorb the radiation.

Applying the above guidelines:

- Minimize time spent in close contact with other people. A little time (e.g., kissing, shaking hands) is alright, but keep it brief.
- Try to stay 6 feet or more from other people. For example, have visitors sit across the room or at the foot of the bed.
- Shielding is included in the eye patch you are wearing. You should keep this on as much as possible, and whenever you are near (within 6 feet of) other people.

Even though the amount of radiation is low and not likely to have any effects, we recommend avoiding pregnant women and children visitors because they are more sensitive to radiation.

You should not leave the Watermark until your scheduled return unless there is an emergency.

It is not likely, but it is possible that the eye plaque or a radioactive seed can become dislodged. Therefore, you should avoid activities involving vigorous head motions or jarring of the head. In the unlikely event that a radioactive seed or the entire eye plaque becomes dislodged:

- Using a spoon, tweezers or other implement, place it in a jar or other container (one with a lid if available). Handle the plaque or seed gently so that you do not crush a radioactive seed. **Do not handle the plaque or seeds with your fingers.**
- Place the container in a safe location away from people.
- Notify the nursing staff who will contact Wills Eye Oncology service and/or the Radiation Safety Officer immediately at the telephone numbers given below.

It is important that you return to Wills Eye Hospital at the scheduled time to have the eye plaque removed. If you do not return as scheduled, you eye may receive a radiation dose that is more than was prescribed. This might result in adverse effects.

Return on _____ _____ at _____
(day of week) (date) (time)

If you have a medical or other emergency, be sure to inform the person in charge aware of your eye plaque and the need for the plaque to be removed as scheduled. The wrist band that you are wearing is provided for this reason. Contact Wills Eye Oncology service as soon as possible.

Wills Eye Oncology	**Radiation Oncology**	**Radiation Safety Officer**
215-928-XXXX	**215-762-XXXX**	**215-651-2211**

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