
Patient Care

Understanding and Responding to Patients in the Nuclear Medicine Department

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The daily problems existing in a nuclear medicine department—involving communication, understanding, and effective handling of the patient by nuclear medicine personnel—are discussed. Experiences and observations based on a patient population of approximately 3,000 are included. Recommendations for in-service education and methods for solving specific problem situations are also suggested.

The task of handling patients in the nuclear medicine environment becomes somewhat difficult when the psychological needs of a patient are overlooked or not seen as an integral part of the patient's care and recovery (1). Therefore, we, as nuclear medicine personnel, should take it upon ourselves to know and understand the importance of these needs.

Most patients who come to a nuclear medicine department wonder about their safety in an environment that contains radioactive materials. Not having enough information about what is taking place adds to apprehension and insecurity—already present as a result of illness. Patients may manifest distrust, fear, and confusion when undergoing procedures they do not understand. Some of the commonly asked questions that reflect their concerns include:

- What is nuclear medicine?
- What is a scan?
- Will the radioactive material give me cancer?
(I have read that it is dangerous.)
- Will I have any side effects from the injection?
- Will the scan show that I have cancer?

Suggested Guidelines for Handling the Patient

When seeing a patient for the first time, be cheerful and kind and introduce yourself. Make the patient as comfortable as you can. The more at ease the patient is, the easier the task will be. Show confident assurance and,

most of all, be attentive. Describe briefly what you are going to do in terms that the patient can understand. Expect questions, which will certainly be asked, and be prepared to answer every one of them simply and briefly without use of technical jargon. Define nuclear medicine: the medical application of radioactive materials for diagnostic and therapeutic purposes. Explain that the radiopharmaceutical is administered in such small doses that no harm is caused to the body, and, since most of the radioactive material used in nuclear medicine dissipates within a few days, assure the patient that application of the radiopharmaceutical does not warrant fear.

Examples of Common Questions and Answers:

- Q:** Will the radioactive material give me cancer?
A: No; radioactive doses are minimal.
- Q:** How long will it stay inside my body?
A: Your answer should be appropriate to the radiopharmaceutical injected—most will stay longer than a day. Examples: Tc-99m: 24 hr; and [¹³¹I]sodium iodide: 16 days.
- Q:** Will I have any side effects from the injection?
A: We do not expect side effects from this type of injection.
- Q:** Will it harm me in any way if I am not ill?
A: No.
- Q:** Will it make my hair fall out?
A: No.
- Q:** Then why do I hear that many people lose their hair?
A: Loss of hair has been generally associated with radiotherapy or chemotherapy treatments, rather than nuclear medicine procedures.
- Q:** Why has my doctor sent me here?
A: Well, I'm sure that your physician is doing everything he can to find the proper diagnosis, and he feels that this evaluation is needed.
- Q:** Is this a treatment?
A: No, this is not a treatment; this is only a scan to gain further information about your diagnosis.

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Q: What does the machine do? Will it expose me to too much radiation?

A: The machine used in a nuclear medicine department is similar to a camera. It is not designed as those used for x-ray and will not produce any radiation exposure.

Q: Why does it take so long to do a bone scan or a gallium scan?

A: Time is required after the injection is given for the chemical to be taken up by the structures in your body that the physician wishes to examine. If it's done any earlier than the time required, the examination will not be accurate.

Q: Does the scan show that I have cancer?

A: Many conditions can be associated with an abnormal scan. Therefore, an abnormal study does not necessarily mean that you have cancer.

Q: Do you have to go through the bone to give me the injection?

A: No; the injection is simply given into a vein.

Q: Does it hurt? Are you going to harm me?

A: No. There will be no harm from the injection, although you will feel a pin prick similar to when you have blood work done.

Q: Is it all right if I come by myself to your office? Can I drive a car safely after you do a study on me?

A: You can come alone or with somebody else. Either way is fine. The examination itself does not have any side effects that will affect your driving capabilities.

Q: What special precautions are to be taken by me before and after you do a study on me?

A: Special precautions are not necessary, except try not to be around babies or kiss them (or, should the patient be breast-feeding, tell her not to breast-feed for 48 hr when Tc-99m has been injected; when other types of injections are used, restrain from breast-feeding for three weeks to a month, depending on the advice of the physician).

Q: Will you tell me the results right away? If you don't I will be depressed or upset.

A: The results will not be ready right away, but your physician will interpret the results carefully and then you will be notified.

Q: Where is my liver and my spleen?

A: Your liver is located under the right lung. The spleen is beneath the heart and the stomach.

Q: What does the liver do?

A: (If convenient, make explanatory sketch for the patient.) The liver is an organ that aids in the digestion and absorption of food; it also produces bile, essential for digestion in the small intestine.

Q: What is the function of my spleen?

A: It has various functions in modifying the structure of blood.

Q: What is the pancreas and what does it do?

A: The pancreas is a gland located beneath the stomach; it secretes a digestive juice called pancreatic acid.

Q: I have a cardiac condition. Will the radioactive material affect me in any way?

A: No. In fact, most cardiac patients undergo similar examinations.

Q: For a brain scan, do you have to inject something directly into the brain? Will it hurt me?

A: No. It is simply injected into a vein.

Q: I don't feel ill. Why am I here?

A: That is all right. I am sure that your physician is fully aware of your present medical condition. He wants to do a thorough examination and this is just part of it.

Q: Some years ago, I had a liver scan, but there was no injection. What is so different about this?

A: It was probably another type of examination, or perhaps you have forgotten that there was an injection.

Q: Why didn't my nurse tell me the nature of the examination before I came here?

A: She probably felt that it would be best for us to explain things.

Q: I am here for a thyroid scan... I feel fine... so why the study?

A: Your physician thinks that it is important to have your thyroid gland scanned to determine the function rate and the size of your thyroid gland.

Q: By the way, can I take the pill or capsule home to take (for patients who are calling for appointments)?

A: No. An important part of the procedure is to observe and record the time of dose administration.

Q: Why does it take 24 hr?

A: Studies have shown that in order to obtain accurate results for the thyroid function, 24 hours is the amount of time required.

Q: My doctor did not explain that the test was going to take 24 hr.

A: Perhaps your doctor has left those matters up to us.

Q: What is radioactive material?

A: Radioactive material contains a combination of active atoms that are short-lived; they give off energy sufficient for diagnostic purposes.

Relax and remember... nuclear medicine is your servant for diagnosis and treatment. Your physician, hospital, and the nuclear medicine personnel have been thoroughly trained for the job. In addition, the physician who tests or treats you is especially licensed to use radiopharmaceuticals.

What about Patients Who Don't Ask Questions?

Patients who do not ask questions about the nature of the procedure fall into one of several categories: A) they may not speak English. If they are accompanied by relatives or friends who do speak English, you can explain the study briefly and ask them to inform the patient; B) some patients manifest less concern either because they have undergone this procedure before and therefore know what to expect, or are very trusting. Such patients should be reacquainted with basic information and be advised of any

changes since their last visit; C) other patients may be inhibited, fearful, or fear rejection, and feel that their questions cannot be answered. For such patients, the same standard should be used as for those who can and do verbalize their inquiries.

The Nurse's Role and Suggested Guidelines

In small hospitals, as well as in some medical centers, nurses are often not fully aware of or educated about their role in handling patients scheduled for radioactive studies. It is unfortunate but in some cases the field of nuclear medicine is not part of their training or orientation.

As a result, the patient is rarely prepared to come to the department for a scan and is generally unaware of the nature of the procedure. Cooperation, understanding, and scheduling procedures could be greatly improved by appropriate interdepartmental communication.

An in-service education program in the nuclear medicine patient's care should be created for the nursing staff. This in-service education program should include some basic instruction regarding the radiopharmaceuticals most commonly used, basic nuclear physics, nuclear chemistry, and nuclear biology. As nuclear medicine personnel, we must build administrative support in this new and growing field for the benefit of all.

Suggested Guidelines for the Referring Physician

Encourage the referring physician to obtain literature on the subject from either the *Journal of Nuclear Medicine* or the *Journal of Nuclear Medicine Technology*. This material should also be supplemented with other textbooks and literature related to the field. The physician

will then be able to familiarize himself with the basics of the practice, as well as the nature of the utilization of the most commonly used radiopharmaceuticals in medicine for diagnosis and therapy. A well-informed referring physician is as much help to the patient as he is to all concerned in the delivery of these vital services (2).

Conclusion

Well-informed and prepared patients who have visited the nuclear medicine department are more confident, cooperative, and, most of all, more reassured and hopeful for better recovery on departure. Competent handling of patients is not only vital for producing harmonious interchange between patient and medical personnel, but essential for a better delivery of good care as we strive to maintain and improve high standards of integrity in the field of nuclear medicine.

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