

The Use of Medical as Opposed to Lay Terminology in Acquiring Patient Histories

The value of technologist-acquired histories in nuclear medicine has been previously reported (1). The authors report a study done to determine whether medical information obtained by technologists on patients undergoing liver or bone scintigraphy is more meaningful if questions are phrased in standard lay terminology rather than phrased in medical terminology. Results indicate that technologist-acquired histories with questions phrased in nonmedical terms are less confusing to patients and provide more meaningful medical information than those with questions in medical terminology.

The importance of phrasing questions so as to avoid ambiguous answers in taking patient histories was briefly discussed in a previous article (1). To our knowledge, no publication has presented data to determine if more meaningful medical histories could be obtained when technologists ask questions in medical as opposed to lay terminology of patients undergoing liver or bone scintigraphy.

The manner in which a question is phrased is of utmost importance in obtaining the desired response without the patient expressing confusion. The necessity of further clarification of a question adds time to acquiring histories, and technologists in a busy department must be able to obtain histories rapidly and efficiently. Knowledge about history-taking is definitely gained through experience and trial and error. However, if questions are phrased in a way that obtains the most meaningful medical information in the most expeditious manner, the history taking process can be improved.

This study was undertaken to test the hypothesis that technologist-acquired patient histories will be less confusing to the patient and elicit more meaningful medical information when questions are stated in lay terminology as opposed to medical terminology.

SURVEY METHODS

At our institution, a patient history questionnaire form was devised by the staff physicians for both physicians and technologists to acquire historic information about patients who are undergoing either liver or bone scintigraphy. The original questionnaire (Table 1) is in a format that includes specific historic topics that may have possible relevance to a particular type of scan (such as alcohol intake for patients undergoing liver/spleen scintigraphy) in addition to space for the physician or technologist to individualize the history. There is also a space to include relevant laboratory results, when available. Although the topics were there to follow as a guide, many technologists initially found themselves unsure of how to ask the questions in order to get the desired information.

For this study, two variations of the original questionnaire were used. In one questionnaire (Table 2), a specific set of lay questions was designed to avoid an inappropriate response from a patient. In another questionnaire (Table 3), a corresponding set of questions was designed in standard medical terminology. Each technologist evaluated the patient's understanding of each question as evidenced by an appropriate response immediately following the question without the patient expressing any confusion. If any qualification was necessary, it was considered that the patient did not understand immediately. A place was provided along the right side of the questionnaire which allowed the technologist to indicate understanding or confusion of a particular lay or medical question when asked of a particular patient. The technologists were instructed to ask the questions exactly as they appeared on the form.

The histories of the 138 bone scan outpatients and of the 23 liver scan outpatients included in this prospective, subjective study were obtained by 13 technologists. The two different questionnaires involving either lay questions or medical questions were alternately used as patients presented for their studies.

QUESTIONNAIRE RESULTS

Using the criteria that the patient must immediately and appropriately respond to a specific question, 92% of the outpatients undergoing bone scintigraphy understood the question immediately when using lay terminology as opposed to 71% when using medical terminology. Eighty-nine percent of the liver scan outpatients understood immediately when using lay terminology as opposed to 60% when using medical terminology.

DISCUSSION

Whereas it might not be surprising that patients would find questions less confusing if they are phrased in lay terminology, it was uncertain prior to this study whether meaningful information could be gained when questions are asked in lay terminology.

In devising this study, the authors developed several ways to ask a medical question in lay terms so that the patient would more quickly understand and respond appropriately. Using the bone scan questionnaire as an example, the authors highlight some of the different types of questions and how they may be asked in lay terminology to acquire medical information.

One of the most important pieces of information to ascertain is the primary reason the patient is presenting for the bone scan. Asking this question ambiguously will commonly elicit useless information. For example, the question "What brought you here today?" might elicit a response such as, "I came by

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car." Another way in which this question is frequently asked, "Why are you having this test?" may elicit the response "... because my doctor ordered it!" To get the desired response, a better way to initially ask the question might be "What problem or symptom do you have that made your doctor order this test?"

Historic information regarding past trauma is very important to the nuclear physician in interpreting bone scans. A technologist who asks the patient if they have had any trauma may be surprised when the answer is in regards to mental trauma that they have suffered in their life. A more appropriate way to elicit this information might be to ask "Have you fallen recently or had any blows to your body?"

Osteomyelitis is another area frequently evaluated by bone scintigraphy. Patients usually do not understand the medical term "osteomyelitis." This area of questioning is better evaluated by asking the patient if they have ever been hospitalized for an infection in the bone or whether they are suspected of having an infection in either a bone or a part of their body.

TABLE 1. Specific Historic Topics

**WILLIAM BEAUMONT HOSPITAL
DEPARTMENT OF NUCLEAR MEDICINE**

BONE SCAN

Patient's Name _____ Date _____

Age _____ Height _____ Weight _____

Diagnosis _____

Trauma _____ Body Site _____ When _____

Fractures _____ Where _____ When _____

Surgery _____ Body Site _____

Pain _____ Body Site _____

Previous Osteomyelitis _____ Body Site _____ When _____

Suspected Osteomyelitis _____ Body Site _____ When _____

Radiation Therapy _____ Chemotherapy _____

Known Carcinoma _____ Area _____

Right-Handed _____ Left-Handed _____

Known Sites of Arthritis _____

History of Arthritis:
Type: Osteo _____ Rheumatoid _____ Gouty _____ Other _____

History: _____

Recent Pertinent X-rays: _____

Lab Results: None Available _____ ALK PHOS _____ CA** _____ P _____

Dose _____

Injection Site _____

Tech Scanning _____

TABLE 2. Specific Lay Questions

**WILLIAM BEAUMONT HOSPITAL
DEPARTMENT OF NUCLEAR MEDICINE**

BONE SCAN

**Explain to the patient that you will be asking a series of questions that are routinely asked of all patients to gather information the doctor needs to interpret the study.*

Patient's Name _____ Date _____ Age _____

Height _____ Weight _____ Diagnosis _____

*What problem do you have that made your doctor order this test?

Appropriate response
yes no

*Have you recently fallen or had any blows to your body?
Yes _____ No _____ Where _____ When _____

Patient understood immediately
yes no IR

*Have you broken any bones in your body?
Yes _____ No _____ Where _____ When _____

yes no IR

*Have you ever had any surgery?
Yes _____ No _____ Where _____ When _____

yes no IR

*Do you have any bone pain now?
Yes _____ No _____ Where _____ When _____

yes no IR

*Have you ever been hospitalized for an infection in your bones?
Yes _____ No _____ Where _____ When _____

yes no IR

*Has your doctor ever told you that you have arthritis?
Yes _____ No _____ Where _____

yes no IR

Do you know what type? (give examples: rheumatoid, gouty, osteo)

*Have you ever been diagnosed as having cancer?
Yes _____ No _____ What kind? _____

Patient was upset by the question
yes no IR

*Have you had any radiation treatments or chemotherapy?
Yes _____ No _____ When _____
(since your last bone scan, when approp)

yes no IR

*Have you had recent x-rays pertaining to your problem?
Yes _____ No _____

Patient understood
yes no IR

When _____ What part of body? _____

History: _____

Total time for history
_____ min

Lab Results: None Available _____ ALK PHOS _____ CA** _____ P _____

Right-handed _____ Left-handed _____

(When appropriate:)
*In nonemergency situations it is not appropriate to do the test if there is a remote possibility of pregnancy

Can you tell me the date of your last menstrual period? _____

Are you pregnant or is there any chance of pregnancy now? _____

Are you breast feeding now? _____

Patient response favorable
yes no

*Did your doctor or anyone explain what we will be doing for your test today?
Yes _____ No _____ Prior scan _____

Dose _____ Tech _____

TABLE 3. Standard Medical Terminology

WILLIAM BEAUMONT HOSPITAL
DEPARTMENT OF NUCLEAR MEDICINE

BONE SCAN

*Do NOT explain to the patient that you will be asking a series of questions.

Patient's Name _____		Date _____	Age _____
Height _____	Weight _____	Diagnosis _____	
*What brought you here today? _____			Appropriate response yes no
*Have you had any recent trauma? Yes _____ No _____ Where _____ When _____			Patient understood immediately yes no IR
*Have you ever had any fractures? Yes _____ No _____ Where _____ When _____			yes no IR
*Have you had any surgery? Yes _____ No _____ Where _____ When _____			yes no IR
*Do you have any pain? Yes _____ No _____ Where _____ When _____			yes no IR
*Do you have osteomyelitis? Yes _____ No _____ Suspected _____ Where _____ When _____			yes no IR
*Do you have arthritis? Yes _____ No _____ Has your doctor ever told you that you have arthritis? Yes _____ No _____ Where _____			yes no IR
What type? _____			Patient was upset by the question yes no IR
*Have you ever been diagnosed as having cancer? Yes _____ No _____ What kind? _____			yes no IR
*Have you had radiation therapy or chemotherapy? Yes _____ No _____ When _____			Patient understood yes no IR
*Have you had recent x-rays? Yes _____ No _____ When _____ Body site _____			Total time for history _____ min
History: _____			

Lab Results: None Available _____ ALK PHOS _____ CA** _____ P _____
Right-handed _____ Left-handed _____

*(When appropriate. No explanation initially.)

Date of last menstrual period? _____
Are you pregnant? _____
Are you breast feeding? _____

Patient response favorable yes no

*Did your doctor or anyone explain what we will be doing for your test today?
Yes _____ No _____ Prior scan _____

Dose _____ Tech _____

Determining whether or not a patient has cancer or is suspected of having cancer is a delicate and sensitive subject. Asking questions specifically about cancer may cause concern in a patient's mind about his/her condition. Preferable alternative ways of asking questions about this sensitive topic are: a) "Have you had any major medical illnesses?" or b) "Have you ever been diagnosed as having cancer?" When asking these questions, inform the patient that these are routinely asked of all patients.

When using a questionnaire such as the one described in Table 1, the authors offer the following suggestions for obtaining patient histories:

1. Experiment with different ways to ask questions. Develop a style with which you feel comfortable.
2. Tell the patients that these are routine questions asked of all patients. Subsequently, the patient will not feel singled out when a sensitive question regarding topics such as alcohol intake, pregnancy, or cancer are elicited.
3. Complete the form fully. The form is only as good as the medical information that it provides. Avoid checks or slashes that are meaningless to the physician reading the history, and try to use yes and no answers or short explanations instead.
4. When doing a history for a nuclear medicine procedure, it is unnecessary to have a complete patient history such as an internist would have. The focus is on the diagnosis pertinent to the scan. A questionnaire can guide you along the relevant topics to be discussed.
5. If the patient has had a previous scan, the history will already be in the chart. Therefore, concentrate on what has taken place since the last scan. Previous chemotherapy treatment, radiation therapy, or the development of pain since the last scan is the most important aspect for interpretation of the present study.

In conclusion, it was found that the technologist does have a place in acquiring meaningful medical information from a patient, and having the aid of a questionnaire is a very useful tool. Of the different ways to ask a question, it was found that questions asked in lay terminology are less confusing to the patient than questions in medical terminology. In addition, stating the question in lay terminology did not seem to elicit less meaningful medical information than questions asked in medical terminology.

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