

# Use of Value Clarification Techniques in Nuclear Medicine

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*Value clarification techniques, an important adjunct to nuclear medicine technology instruction, give the student an opportunity to clarify and place value assessments on the material he is being taught. For example, a student who does not believe in the dangers of radiation and the necessity for radiation safety presents a problem that can lead to serious consequences. Through value clarification techniques, examples as well as theory are provided to the students. The motivation to learn and to incorporate material into a value complex is thus accomplished and nuclear medicine becomes a safer and more efficient field in which to work. Examples of various techniques that can be modified for use in other situations are demonstrated.*

Every day, each one of us encounters situations that call for thought, opinion making, decisions, and finally action. Everything we do, every decision we make, and each course of action we take is based upon our consciously or unconsciously held beliefs, attitudes, and values (1).

Students in nuclear medicine technology are faced with decisions concerning what and how to think, believe, and behave in new and different situations. Their instructors can present only a limited amount of information that the students assimilate in a variety of ways: they may take material at face value without question, they may promptly forget it all, or they may recall and apply most of what was learned in day to day situations. The student or the nuclear medicine technologist is the person who ultimately must decide what is important, what decisions to make, and finally what action to take. For example, while radiation safety is taught in the classroom, the degree to which the student will apply classroom instruction to the clinical situation is unknown. While a student is taught cardiopulmonary resuscitation (CPR) and drilled on a "Resusci-Annie" manikin, he may still "freeze" or stand by helplessly during an emergency. Increased interest in cardiac work in nuclear medicine departments may soon expose the technologist to situations in which he must assume a vital role in initiating emergency measures

and sustaining life until other help arrives. The ability to convert instruction into action is necessary. Value clarification can aid the student in this process.

## Explanation of the Concept

Each person has different experiences from which he grows and learns. From these, certain general guides to behavior result. These guides, herein called values, give direction to life; our individual values demonstrate what we do with our time and energy (2). Since values grow from experiences, each individual is different. Values, however, can change with more input, different experiences, and time to assess that input. The seasoned student or technologist may have more experience or input, resulting in more clearly developed values than the new student who has not had the experience or time to form complex values.

As values develop, they operate in very complex circles and involve more than the simple extremes of right or wrong, good or bad, true or false. Areas in which individual values are called upon usually involve conflicting demands; this in turn necessitates weighing and balancing, and finally an action results that reflects a multitude of forces (2).

In nuclear medicine technology education, two examples are: Are radiation protection techniques used in the clinical situation because of an in-depth understanding of inherent danger or a shallow application of techniques to please the supervisor? Is the student's emphasis placed on being a good student, rather than becoming a good nuclear medicine technologist?

The student should relate the facts and concepts of a subject to his own life and experiences so that those facts and concepts have meaning. Clarifying values forces the student to ask the question: "Just how do these facts and concepts affect me?" Each student must explore the connection between subject matter and his own feelings, opinions, and behavior (3).

There are several levels of valuing, which include: willingness to receive information, responding to that information, assigning values to the information received, organizing the material into a value system, and characterizing that information by integrating it into a value complex (4). When using value clarification techniques, the instructor must direct his material into

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one of these five areas, realizing, of course, that as one progresses along the levels of valuing, more effort and instruction must be incorporated into his technique to reach a desired goal. Which level the instructor wants to reach should be determined by his goals and the significance of the material presented.

There are also other areas important to the successful completion of a value clarification exercise, such as trust and rapport. Without trust and rapport communicated to the student, he may say what he believes is expected of him by the instructor. This might be contradictory to what he honestly thinks or feels, but it is an alternative to the possibility of being exposed to criticism. Another point and probably the most difficult to remember is this: these techniques are value *clarification*, not value *imposition* techniques. Therefore, the instructor should not criticize, correct, or condemn any values a student expresses. Instead, the instructor should provide the student with several alternatives by which he can put forth his values.

### The Value Sheet Method

A value clarification technique that makes an excellent example is called the "value sheet" (2). The value sheet is a non-threatening and possibly stimulating mechanism by which many important topics may be examined. It gives each student an individual issue to study along with its various alternatives.

The value sheet consists of a statement followed by a series of questions written on a sheet of paper. The statement contains an issue the instructor feels may be valuable to the student. The questions help the student to clarify his ideas on the subject matter and allows the student to make a choice. The statement and questions are given to each student.

One way to jeopardize a student's trust is to fail to mention that the paper on which the student has written his values is going to be evaluated. If the papers are to be collected, the student should know this at the start of the exercise; otherwise, he may feel betrayed. Since they represent a person's innermost feelings, values cannot be graded as right or wrong, but they can be clarified. Another way to damage one's rapport is to ask a student to read his values aloud—against his will. Values should be read aloud only if the student is willing to do so; otherwise, the student may repeat the instructor's values rather than his own. As an alternative, the instructor may allow the student to write his ideas on a separate sheet of paper that will not be passed in. Later, an open discussion may be held and students may then share ideas.

The value sheet can be used with small groups of students and is effective in passing information to them and having each individual reply to what has occurred. It presents the student with an issue and its alternatives; it encourages an intelligent choice and an action consistent with the choice.

An example, a short exercise involving vertical mobility and continuing education is:

### Professional Obsolescence

"Failure on the part of the health professional to recognize this situation (keeping abreast of technological developments) and to take preventative action will result in his becoming professionally obsolete and increasingly more incompetent, with the resulting breakdown of his effectiveness in the health delivery system" (5).

These questions are then raised for discussion:

- What do the words "professionally obsolete" mean to you?
- Is the nuclear medicine technologist in the field for five to ten years—who has never participated in a continuing education activity—obsolete?
- Suppose he is satisfied with his position?
- Suppose he wants to be the next department supervisor?
- Does this technologist actually "break down the health delivery system" by not attending continuing education activities or is he doing his job efficiently by working in the manner he is told to by his supervisor?
- Should he be considered obsolete or just satisfied with his position?
- Does improving your situation seem important to you or are you satisfied with your present status?

Questions such as these can touch a sensitive nerve, especially when asked of an experienced technologist. If the instructor persists in asking such direct questions of students and technologists, they will soon avoid cooperating. However, if they realize that they may answer honestly, without recrimination, they may be more amenable to discussion with peers, as opposed to answering direct questions.

This exercise is one of many that can be used. The same format can be used with other topics. With practice, value clarification techniques can be a valuable aid to students and teacher alike.

### The Rank Order Method

The object of "rank order" technique is to ask a question, give three reasonable answers, and have the student rank the answers as first, second, or third choice. In this manner students see that one must frequently make choices among alternatives. While some of the choices are minor, others are more important and can have long-range, far-reaching effects, such as, what type of radiation protection individual students should use in different situations, and which tests are actually safe to repeat and which are not. This strategy gives the student practice in choosing between alternatives and in affirming, explaining, or defending his choices. This

method demonstrates that many issues require more thought than we tend to give them (1).

**Example:**

Concerning patient exposure, if the choice were up to you, would you rather repeat a pancreatic scan, repeat an infant brain scan, or scan a woman who is pregnant?

Which of these radiation safety techniques is most important to you as a technologist—time, shielding, or distance?

Which piece of equipment is most necessary—a gamma camera, a portable camera, or a computer system?

Not every technologist will have to make these choices in his job situation. However, with increased demand for technologists and, subsequently, for chief technologists, these questions and others could be of importance. To complete a rank order exercise a short discussion may be held, letting students give reasons for their choices. This enables the students to realize that many issues require more thoughtful consideration than most would tend to give.

**The Value Continuum Method**

Another technique of value clarification is called the “value continuum.” The purpose of the continuum is to open up the range of alternatives on any specific issue. This exercise can be an interesting follow-up to the rank order exercise. The object is to help students realize that issues have many alternatives, and these alternatives have many shades of gray, rather than being black or white, true or false, and so on. To use the value continuum, the instructor asks each student where he stands on the continuum and then asks for the reasons after everyone has given his position. Discussion may follow.

The purpose of this example is to demonstrate various radiation film badge readings and to give each student the opportunity to make a value judgment regarding the range on the continuum within which his readings should fall. It then becomes each student’s responsibility to keep badge readings within the range he has specified.

**Example:**

Scale of minimal mr: 20 – 30 – 40 – 50 – 60 – 70 – 80 – 90 – 100 –, and so on.

- What would be considered a reasonable amount of whole-body radiation exposure for an NMT during a one-month period? (Choose from the scale.)
- At what point do sloppiness and incorrect safety habits have an impact?
- At what point do you reach a personal radiation danger level?

If using this exercise in a radiation safety class, it would be of benefit to show actual radiation safety records to students (without including names) in order

to give them some background on what levels of radiation are encountered in a normal one-month period. The object of the exercise is to instill some commitment toward safety by indicating what levels are safe and where sloppiness is revealed. Eventually when the students are working as technologists, these guidelines will give them some idea of how careful they should be with radioactive materials and whether they are taking satisfactory safety precautions. Once again, while material and students’ opinions can be utilized for class discussion, no individual student’s work should be cited; personal values that are in the process of being formed should not be graded as good or bad. They can only be improved through further input.

**The “Are You One Who...?” Method**

The “are you one who . . . .” method involves the entire range of the nuclear medicine field. It is an exercise that attempts to have the student or technologist consider the areas of his job that he values. It is designed to assist the student to decide what he wants out of life and what type of person he wants to become. The exercise helps define present conditions and future goals. The goals of the instructor in using the strategy include: helping the student realize what is desired from the educational program, making the student aware of underlying problems, helping him re-evaluate his role in the nuclear medicine department, and giving him a gentle push toward solving problems he may be experiencing (1).

In order to perform the exercise one simply answers each question with a yes, no, or occasionally.

**Example:**

Are you one who...

- Is happy in the field of nuclear medicine?
- Discusses a patient’s problems in his presence when you think he is not aware of others?
- Lets the difficult patient go without that extra view?
- Lets that hefty dose slip by?
- Just cannot get along with patients?
- Is willing to work overtime occasionally?
- Pushes buttons instead of operating expensive equipment?
- Patients do not interact with easily?
- Just puts in your eight hours?
- Is never satisfied with what you are doing?
- Blames the patient for a bad picture?
- Always forgets those little chores?
- Really ought to be in a hospital environment?
- Really ought to be in nuclear medicine?

**The “Strongly Agree—Disagree” Technique**

One final technique should be thoroughly discussed in order to demonstrate and sum up the methods used in value clarification techniques. The technique used for

this example is called “strongly agree—disagree.” It forces students to examine the strength of their feelings about a number of issues (1).

The technique can be used for radiology students at the end of a two-week period in nuclear medicine. After instruction in all areas of nuclear medicine has been completed, this exercise attempts to bring each aspect together in the mind of the student by a final clarification of his values. The goal of this exercise is to give the student one last chance for reflection on the material presented before leaving nuclear medicine and resuming other studies.

The student is to answer questions honestly; answers will not be collected. After the student answers the questions, he should ask any additional questions that the statements stimulate. This is definitely not a test and should not be treated as such. Each student is allowed ten or fifteen minutes to answer the stated questions; then, if no personal questions arise, he will have completed formal training in nuclear medicine. This exercise prompts the student to find questions he may not have asked or received answers to in the classroom or clinical situation. The technique is concluded when all of the student's questions are answered to his satisfaction. When personal values are brought up in the questions, the instructor must remember not to force his own values upon the students. At the close of the session, the students are asked to check their answers to these questions occasionally and to reflect on why they answered as they did.

#### Example:

Please read the following statements and then indicate how you feel about them according to these categories—strongly agree; agree somewhat; disagree somewhat; or disagree strongly.

- Quality control is important to nuclear medicine.
- Radiation protection is of concern to the nuclear medicine technologist.
- There is no real radiation danger in nuclear medicine employment.
- The obstinate patient can be tested, if the technologist tries.
- There is no apparent radiation involved in nuclear medicine employment.
- Not all nuclear medicine tests are important from a diagnostic point of view.
- It is better to shorten the length of exams as much as possible.

- There is an element of fear for the patient undergoing a scanning exam.
- I would not hesitate to have a nuclear medicine exam myself.
- Proper peaking of equipment is essential to patient safety.
- The radiation the patient receives is not harmful.
- Nuclear medicine requires exacting care and many safety precautions.

One different use of the strongly agree—disagree technique is to use it first after didactic training, and then again after clinical training. Thus, the students will be shown how much importance clinical and actual experience can have in shaping values in nuclear medicine as well as in other areas.

#### Summary

Value clarification techniques must be examined carefully; they must be scrutinized to remove value imposition, leaving only value clarification material. Rapport is extremely important, as is trust. People live by their values, and these values promote safety, dedication, and care. Facts and concepts of a subject area can be and are related to *each* student's life through the use of values. There are many techniques in addition to those I have illustrated. The bibliography contains references to materials on value clarification techniques for those who are interested in further study. Value clarification techniques can be a definite value to instructors and students but complete understanding of the techniques is required for their proper use.

#### Acknowledgment

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