Radiologic Technology Clinical Preceptors’ Handbook
Introduction

Congratulations! You have chosen to become a Clinical Preceptor for the Radiologic Technology Program at Coastal Bend College. You are a very important part of the clinical education portion of the program. Skillful clinical preceptors are vital to any dynamic, successful educational program. Educational facilities, laboratories, equipment, and faculty are also needed, but without technologists competent in clinical instruction, no educational program in Radiologic Technology can be successful.

One of the most rewarding experiences you will have as a clinical preceptor is to know that through your efforts, someone has become competent in the art and science of Radiologic Technology, has developed a better self-image, become a better human being and a productive citizen to the community. Through the application of your instructional skills, you can bring these qualities out in a student.

At this point, perhaps you feel some anxiety about taking on such responsibilities. Relax, you are in good company. Clinical instruction is a process which must be learned just like any other skill. If you have the desire to help others develop into competent technologists, then you already have a good attitude toward teaching. Your clinical skill and knowledge that you already possess are the body of knowledge that you will teach, so most of the battle is won already. The only ingredient lacking is your acquisition of clinical instruction and evaluation method and the application of these through the program’s system of clinical education.

The program faculty is ready to assist you in any way and will help you orient yourself to your new duties, act as a resource for any questions, and help you with any problems that may arise. We are confident that you have the necessary technical skills and professional attitude and will take the personal responsibility to acquire the clinical instruction and management skill you will need to fulfill your potential as a clinical educator.
How to use this manual

This manual has been prepared to help you, the clinical preceptor in several ways. First, it serves as a source of information about many aspects of the clinical education system. In order to look up a particular bit of information, scan the Table of Contents and turn to the page number indicated under the subject you desire. If you need to refer to a particular policy or clinical rule, use the Student Handbook.

Secondly, the manual serves as an introduction to the art of instruction and clinical education management. As such, it presents only some of the basic concepts. The faculty will assist you in obtaining any learning resources which you may wish to use to broaden your knowledge further.

This is your manual. It is expected to evolve and change. Your contributions and suggestions are encouraged and expected. If you have developed any clinical methods or materials which may be useful to others, please bring them forward. It is only by sharing of ideas with others that we can achieve the proper atmosphere of cooperation which will enable all of us to do a better job.
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Program Philosophy

The Coastal Bend College Radiologic Technology Program was developed with the philosophy that academic preparation should include classroom and laboratory interaction, followed by clinical experience. It is the purpose and aim of this program to provide the students with the finest training possible so that they may develop their academic capacity, their technical skill, and their professional image. They should develop a belief in their own worth; they must be flexible, responsible, and intelligent. The students must develop an ability to work alone and with others for the common good of the patient. They must learn self-discipline and have an unselfish pride in their work. If, through excellent academic and technical training, the students achieve a sense of meaning and purpose, as well as skill in their profession, the purpose and aims of this program will have been accomplished.
Coastal Bend College
Radiologic Technology Program

Mission

The mission of the Radiologic Technology Program at Coastal Bend College is to provide selected students the clinical and didactic education necessary to create a sound foundation for graduates to qualify as contributing members in the professional career of Radiologic Technology.

Program Goals

The goals of the program are as follows:

1. Students/graduates are clinically competent.
   1.1 Students perform routine radiographic examinations.
   1.2 Students possess knowledge of procedures and patient care.
   1.3 Students/graduates demonstrate quality care and radiation protection to patients, themselves, and others.
   1.4 Students demonstrate classroom skills in clinical education.

2. Students will demonstrate behaviors consistent with an entry-level radiologic technologist in the areas of communications, collaborative learning, and critical thinking/problem solving skills.
   2.1 Students are effective in communicating with patients, supervisors, co-workers, and others and are able to express themselves effectively.
   2.2 Students demonstrate the development of relationships to enhance learning, solve problems, and improve patient care.
   2.3 Students are effective in utilizing skills to solve problems, correctly assess patient condition, and are adaptable in changing situations to meet patient’s needs.

3. Students will possess skills and knowledge to perform Radiologic Technologist duties in a professional manner.
   3.1 Students will always act in a professional manner, follow uniform dress code, including dosimeter, name tag, and markers.
3.2 Are responsible for actions, are punctual in arriving at assigned site, call CI if late or absent, and follow HIPAA regulations.
3.3 Recognize worth of individuals and cultures, explore diversity of ideas, individuals, and cultures through open communication.
3.4 Students recognize and discuss professional experiences.
3.5 Students will broaden knowledge of professional activities by joining Radiography Club.
3.6 Students will demonstrate lifelong learning.

4. Graduate Radiologic Technologists will meet the needs of the community.

4.1 Graduates pass the examination of the American Registry of Radiologic Technology.
4.2 Graduates are prepared for employment.
4.3 Graduates are employed.
4.4 Employers rate graduates as prepared for employment.
4.5 Admitted students complete the program within three years of acceptance into the Radiography Program.

PROGRAM INFORMATION

The Radiologic Technology Program at Coastal Bend College is a two year, career and technical educational program. Students are admitted to the program once each year with selection occurring in May and the class to start in the Fall semester. New students do not start clinical education until October. The program degree requirements are a completion of 60 credit hours of which 10 credit hours are in clinical education. Graduates are awarded the Associate in Applied Science Degree in Radiologic Technology.

Students and the Learning Process

THE STUDENTS

Coastal Bend College has a very diverse student population. The students assigned to your clinical education facility will come from a variety of backgrounds, will range in ages from 18 on up, and be from various socioeconomic backgrounds. There is no “typical” student anymore in the community college. A student coming directly from high school without any previous educational or work experience into a Radiologic Technology program is a very rare occurrence in today’s community college Radiologic Technology educational program. In fact, the average age of the community college student is now about 26 years. The implications of this fact for
educational planning and instruction are enormous. Consider that at one time, perhaps in your own experience, the typical student in Radiologic Technology was about 18-20 years old, lived at home, and had worked at perhaps only a part-time job during the summers. Training under these circumstances involved not only the teaching of needed skills, but also a certain “parental” attitude on the part of the training institution toward the student. The situation today is very different. We still get a portion of young, inexperienced students, but the “typical” student today is more likely to be in mid to upper twenties, married, or divorced, with children, and with 5-10 years of work experience.

People are changing careers more often today and it is not unusual to see students in their forties who may already had a successful career in another field now training as a Radiologic Technologist because they feel a need to help others, a need which was not satisfied in their previous jobs. Such students will often be well motivated and mature, but at the same time may encounter some adjustment problems when they are not treated as mature, responsible adults, but rather like adolescents.

Each student must be treated as an individual, an individual who brings his/her previous life experiences (good and bad) to the training. This means that individual differences must be taken into account. There is no “formula” that can be used that is equally valid for all students. This, however, is not to say that each student should be merely set adrift to “do his own thing”. There are certain professional values that must be learned by all students, even the most mature.

To a large degree, you and your fellow technologists will teach the students the values they will have after training. However, it is doubtful whether this learning will be done in a formal setting. Rather, you will teach the students by example. This observation and copying of you and your fellow technologist’s habits and attitudes by students is called “role modeling”. You are the role model for students and your fellow technologists are role models. If you recall your own training, perhaps you can remember a technologist you wanted to be like, whom you admired and whose ways and attitudes you tended to adopt. Now the tables are turned. As a clinical preceptor, you have the responsibility to be a role model for your students. You can use your role to instill the proper values and attitudes in your students. You can also point out other technologists who are good role models for students and encourage students to copy their behavior. Unfortunately, students, like all human beings, are easily influenced by poor behavior, particularly if they are young and immature or if they are insecure or lonely. You will always need to keep on your guard to avoid these students being influenced in a negative manner by those technologists who use students to bolster their own egos or to manipulate then for some other selfish reason. There have already been too many future technologists ruined in this manner. Rather, try to assign students, when possible, to a competent, caring technologist and encourage
the student to copy his/her ways. You will have done much more this way than hours and hours of counseling can accomplish.

In addition to differences in attitudes and life experiences, your students will have different learning styles. Some will learn best working with a group and some will learn best alone. Some will need to read about and reflect what they are learning before they are able to perform, and some will prefer to learn by rote first and understand what they are doing only later. Some students will be quick to learn with their minds and slow to learn with their hands, and some will be just the opposite. Some students will start off learning rapidly and then reach a plateau and not improve their skill beyond a certain level. Some will be “late ‘bloomers’” who will have an initial difficulty, but will in the end reach a level of skill far surpassing some quick learners. Some will plod and some will soar. However they may learn, it is the end result that counts and you as their clinical preceptor will have a large part to play in that result.

**THE LEARNING PROCESS**

What exactly is learning? We often talk about it, write about it, and send our children to school to get it. We even have so-called institutions of higher learning, but we don’t try to think about what the word really means. There are probably as many definitions of the word as there are school of educational philosophy; however, the most common definition of learning used in education today is this: Learning is a change in behavior. Despite the fact that this definition obviously comes from the school of behaviorist psychology, it still has practical value for us. In fact, unless we are endowed with powers of mental telepathy which enable us to see in some student’s brain what he/she may have learned, the only way we can measure and observe learning is through a change in behavior on the student’s part. So the definition may not be perfect, but at least it is useful to teachers.

What are the different types of learning that can be measured? We often speak of three different kinds of learning which in educational jargon are referred to as learning domains. They are:

- Cognitive domain – Mental Knowledge
- Affective domain – Attitudes and Values
- Psychomotor domain – Manual Skills

An easy way to remember these domains is; the cognitive domain relates to the MIND, the affective domain relates to the HEART, and the psychomotor domain relates to the HAND.

All three domains are used in the clinical setting. At the college, we also expect all three domains to be used, but the emphasis is different. Most of the classroom work
will primarily involve cognitive learning. Laboratory work will involve both cognitive and psychomotor learning. Affective learning will also take place in both settings, but it will not be as highly structured. In the clinical setting, the student will be learning psychomotor skills and affective values. Cognitive learning will take place, but will not be as structured as in the classroom.

WAYS OF LEARNING

In the Clinical setting there are three main ways the student learns: by trial and error, by observation, and by doing. The trial and error method occurs when a student is put into an x-ray room and told to do the examination without any instructions. The student may have had classroom instruction and demonstration lessons, so he/she has some idea about what is needed, but he/she has not actually observed or done the examination under supervision. The student proceeds by trying to perform the examination and of course, continues to make mistakes until he/she eventually gets it right. This method of learning was not uncommon even a few years ago, especially in understaffed, busy hospital programs. Some of you or your fellow technologists may have experienced the trial and error method. Today, it is felt that such methods are unfair both to the student and to the patient. In addition, the method is ineffective where exact standards or a higher degree of skill are necessary. We all use trial and error to some extent and sometimes it is the only method that can be used. But contrary to the opinion of some older technologists, learning the “hard way” is not necessarily learning the best way. More lightly, it has been said that “good judgment comes from experience and that experience comes from bad judgment”.

The proper way to learn begins with observation. This eliminates many of the errors we would make if we were merely to do a task without any previous instructions. This observation should be done, when possible, under the best conditions. That is, the student should observe a competent technologist who performs the examination correctly, without taking shortcuts, and explains what he/she is doing while doing it. The student should be allowed to ask questions afterwards. Of course, patient considerations must come first, but you will find that if you select a cooperative patient and explain that you are teaching a student how to perform the examination, the patient will have no objections. It is clear, however, that no amount of observation can make a student competent to do the examination. The student may get the general idea, but can never develop skills without “hands on” experience. Obviously, such skills can be acquired only by doing.

Learning by doing does not mean jumping into an examination and performing it. The student should slowly pass from a passive mode of observation, into a helping role, into a guided active role, into direct supervision and finally, into independence with only indirect supervision. Students will pass through these stages naturally, in fact,
many times they will be held up more by the preceptor or technologist than if allowed to progress naturally. The pitfall for most technologists and preceptors lies in how they interact with the student in the direct supervision stage. Many technologists think they are helping the student by doing this or that task while the student is doing another. Unless the student is allowed to do all tasks, however, he/she will begin to depend upon the technologist’s help and will not be able to perform independently under real life conditions. Although it is very difficult to do so, the technologist should allow the student to perform all needed tasks alone and should only intervene when a mistake is being made which would not be correctable otherwise. Only in this way will the student develop confidence in his/her own abilities. It is said that “success breeds success”. If a student is allowed to be successful by learning under proper guidance, he/she will be much more motivated to learn further skills and improve those skills already learned. There is real satisfaction in learning a new skill and this satisfaction will motivate the student to learn more. Skill in clinical instruction comes in learning to judge when a particular student is ready to pass from one stage of learning (such as from helping to doing an exam), to the next stage (performing under guidance). We will discuss this factor later under the subject of instruction and evaluation.

**The Clinical Education System**

**CLINICAL EDUCATION PHILOSOPHY**

At Coastal Bend College, clinical education in the Radiologic Technology program is planned and administered with the goals of preparing the student to reach an “entry level” of proficiency by graduation time.

While most students are capable of achieving mastery in specialized areas, we are primarily concerned that the student is indeed capable of acceptable technical performance in a wide range of routine radiographic procedures. In addition to routine procedures, the students are also required to gain experience in trauma radiography, pediatric radiography, and orthopedic radiography.

It is our goal that in addition to technical competencies, students should also develop certain desirable professional attitudes. Therefore, each student is evaluated at regular intervals on objectives pertaining to their professional development.

**ARTICULATION OF CLASSROOM WORK AND CLINICAL EDUCATION**

In a high patient contact field such as Radiologic Technology, it is absolutely necessary to ensure that students have some degree of knowledge and motor skills before permitting them to gain clinical experience on patients. In view of this fact, the
program faculty has designed the curriculum so that students begin the program with didactic course work and laboratory experience which can best introduce students into clinical education. To further enhance coordination of classroom work with clinical experience, students must first demonstrate an acceptable level of understanding of the basic concepts of examinations by passing a “simulation” on an examination. Students are allowed to perform these simulations only after completion of the specific examination in a Procedures course.

COMPETENCY-BASED CLINICAL EDUCATION

The program uses what is called a competency-based clinical education system. The program has identified a set of competencies which all students must be able to perform before they are allowed to graduate.

In addition to the competencies all students are assessed on what are called affective objectives. These objectives relate to the professional and personal characteristics desired in a radiologic technologist by the professional community. They include such things as comprehension of exams, patient rapport, initiative, judgment, professional ethics, etc. These objectives are of such a nature that they are not expected to be completed at a given time, but should be internalized as part of a value system. Student will be regularly evaluated on these characteristics also, and if not satisfactory, may be required to repeat the course or be dismissed.
FLOW CHART FOR CLINICAL COMPETENCY EVALUATIONS

Didactic Education → Laboratory Practice → Laboratory Competency → Observation in Clinical Assignment

Laboratory Competency → Competency Evaluation

Competency Evaluation

- successful → Performance with indirect supervision by qualified radiographer
- unsuccessful → Assisting with direct supervision by a qualified radiographer

Performance with indirect supervision by qualified radiographer → Periodic Competency Recheck

Periodic Competency Recheck

- unsuccessful → Performance with direct supervision by a qualified radiographer
- successful → Continued indirect supervision

Continued indirect supervision → Completes Program Requirements for Clinical Performance
CLINICAL COMPETENCY SYSTEM

The flow chart shows the clinical competency system. After observation and assisting a radiologic technologist in the performance of his/her duties, the student gradually assumes more responsibility until he/she is performing clinical exams independently under the indirect supervision of a radiologic technologist. The rate the student progresses depends on his/her ability to comprehend and perform the various tasks assigned to him/her.

When the student reaches a level of self-confidence in the assigned area, he/she may request to be evaluated to show competency on a particular radiographic procedure. Upon successful completion of this evaluation (minimum passing score is 85%); the student is allowed to perform that specific examination with indirect supervision. The student will continue to practice those examinations while pursuing additional experience.

Students are not penalized for non-success in a competency evaluation. However, if the student fails the evaluation, he/she needs to acquire additional experience in that examination before retesting. The evaluation procedure and grading policies are covered in the section on instruction and evaluation.

COMPARISON OF COMPETENCY-BASED AND CONVENTIONAL SYSTEMS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Issues</th>
<th>Competency-based</th>
<th>Conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who sets the goals and objectives of instruction?</td>
<td>Both the teacher and the student are usually involved. When the teacher sets the goals and objectives, the student is told what they are and often is allowed some choice of objective or goal.</td>
<td>The teacher usually sets the goals and objectives. Often they are not clearly defined. Students are usually not told what they are. Students do not have a choice.</td>
</tr>
<tr>
<td>Who decides on the means and procedures of instruction?</td>
<td>Students often have a choice of alternative routes, experiences, and materials to use in pursuing a given goal or objective. The student controls the amount of</td>
<td>The teacher usually controls the situation and presents all students with the same amount of time.</td>
</tr>
<tr>
<td></td>
<td>time spent on the goal or objective.</td>
<td>Students usually learn how to do something.</td>
</tr>
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<td>--------------------------------</td>
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<td>---------------------------------------------</td>
</tr>
<tr>
<td>What is learned?</td>
<td>Students usually learn how to do something.</td>
<td>Students may learn about something.</td>
</tr>
<tr>
<td>Who decides on the evaluation procedures?</td>
<td>The teacher insures that the evaluation procedures are consistent with the objectives. Often students have a choice of ways to demonstrate that they can perform as expected.</td>
<td>The teacher usually gives a test of his or her own design. Students often don’t know what to expect of them. Testing procedures tend to be paper and pencil tests.</td>
</tr>
<tr>
<td>When does the evaluation take place?</td>
<td>When the student indicates readiness.</td>
<td>When the teacher is through teaching a unit of instruction.</td>
</tr>
<tr>
<td>When does the student move on to the next set of learning goals and objectives?</td>
<td>When the student has mastered the last set of goals and objectives. The student continues working on a set of goals and objectives until mastery is achieved.</td>
<td>When the last unit has been taught and the evaluation of students is completed. Students may have “failed” or “passed” the last unit at various levels of proficiency. Nevertheless, all students move on to new content.</td>
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The Clinical Preceptor

THE ROLE OF THE CLINICAL PRECEPTOR

The job of clinical preceptor is not an easy one. You play several roles as a clinical preceptor. To the students you will be a preceptor, a counselor, and a manager. You must learn all of these roles well. There is some conflict between the instruction and management roles. It is difficult for students to establish a trusting and close relationship, as would be desirable for a preceptor, with the same person who has the ability to discipline them, a manager’s role. However, you must learn to establish such trust and respect for yourself, so that students accept your decisions as correct and not merely arbitrary or expedient. To the college and hospital, you will be a liaison person. You will be expected to keep both institutions informed of any problems or changes which may affect either or both. It is a difficult job but we think you can do it!

If you have any problems of whatever nature, please feel free to consult with the college faculty. We are reasonable people and are here to help you and the students. Our goal is the success of students.

On the following pages, you will find a job description which lists in detail the responsibilities of the clinical preceptor. Read and study them carefully. In other parts of this manual, you will find detailed instructions on how to accomplish the various aspects of your duties such as evaluation, sending reports, performing competency evaluations, etc.

On a final note, remember, as we have discussed in the section on Students and the Learning Process, that you are a professional role model for your students. They are likely to pick up many of your habits, both good and bad. You will set the example for them, and the example set by you will become their professional standard, in other words, in order to be credible, you must practice what you preach.

SUGGESTED RESPONSIBILITIES FOR CLINICAL PRECEPTOR

The clinical preceptor should:

1. Determine when the student is competent to be evaluated through personal observation and/or consultation with other R.T.’s.

2. Rotate students to conform the student’s progress in meeting clinical objectives.

3. If assigning a student themselves, rotate student assignments. In this way they can supervise each student on a rotating basis.
4. Indirectly supervise students via:
   a. Review of their images.
   b. Consultation with the R.T. to whom the student is assigned.

5. Act as a resource person to the student when:
   a. Technical information is desired.
   b. As otherwise needed for student problems.

6. Orientate students to:
   a. Department facilities and equipment.
   b. Department policies.
   c. Department personnel.
   d. Department “routines” and procedure manual.
   e. Institution and other departments.

7. Be able to reassign students to observe or perform infrequently done exam.

8. Be aware of student progress and deficiencies in all categories.

9. Assist below average students in whatever way necessary to improve efficiency.

10. Insure that the students are not “used” by department personnel to do non-
    radiographic tasks and that students are not being “used” in lieu of staff.

11. Attend all Coastal Bend College Clinical Preceptor meetings.

12. If necessary, give in-service to department personnel as to all Coastal Bend College clinical policies.

13. See to it that students are getting accurate and sufficient instruction from R.T.’s to whom they are assigned.

14. See to it that time is not wasted during slow periods by having demonstrations, film critiques, or practice sessions as needed.

15. Arrange for students to attend hospital in-service meetings such as: emergency resuscitation, applicable nursing sessions, disaster meetings, etc.

16. Be certain that students arrive and leave on time.

17. Enforce all Coastal Bend College regulations, such as dress code, etc.
18. Ensure that students are not performing an exam without direct supervision until they have demonstrated competency on that specific exam.

19. Ensure that repeat exams are always performed under direct supervision.

**MANAGING THE CLINICAL SITE FOR LEARNING**

One of the most important duties of a clinical preceptor is to make sure that learning takes place in a structured, organized atmosphere. Certainly, students can learn something even in an unstructured setting, but you find that they will proceed much more rapidly, making your job easier, if you prepare the learning environment beforehand. It has been said that “a university is nothing more than a log with a teacher on one end and a student on the other”; however, you will find that unless you desire to have only one student and are prepared to spend 100% of your time with that student, you will be better off by organizing and managing the learning environment in a more structured fashion. The following is meant to be suggestions and ideas that you can use to manage the clinical site. Use what you like and discard what you don’t like or don’t think will work in your situation. If you have creative ideas not expressed here, tell us about them and we will include them as the manual is updated and revised. We appreciate the opportunity to share your ideas with the other clinical preceptors.

**1. PREPARATION OF WRITTEN MATERIALS FOR STUDENTS:**

The following materials prepared by you will be useful to students to use as reference materials.

- a. Hospital and department policies: A copy of hospital and department policies that also pertain to students should be given to each student.

- b. Technique charts: Each student should be given a complete technique chart for each room or machine in the department. The chart should include both AEC and “manual” techniques, when applicable. A good idea is to prepare a chart in pencil so that if changes are necessary, they can be made easily.

- c. Procedure manuals: The department probably has a list of the required views for each exam. This list needs to be expanded for students to include:
  1) Room set-up procedures
  2) Variations in views for:
a) Different physicians
b) Trauma situations
3) Positioning methods or views which are unique to your facility and are not included in standard textbooks.
4) Materials needed, such as cassette sizes, grids, etc.
5) For CR and DR use, include acceptable “exposure index” limits
6) Helpful hints for:
   a) Difficult patients
   b) Unusual situations
7) What to look for on finished image
   a) Desired exposure
   b) Anatomy to be included
   c) Desired positioning
   d) Variations for different radiologists

2. USE OF STAFF TECHNOLOGISTS:

It must be recognized that in most clinical sites, the major portion of actual clinical supervision cannot be done by college faculty or clinical preceptors. It will be the staff technologist who will actually work with the student and “show them the ropes” in day-to-day clinical experience. The students will model themselves after the methods and behaviors of the staff. Therefore, it becomes your duty to make sure that what the students are learning is up to the standards of the department, the College, and the profession.

Possibly the best way to accomplish this is to assign students to only the best technologists and tell them to model these technologists' behavior. You should also select those technologists who enjoy working with students and avoid those who have expressed a dislike for students. In real life, however, this ideal situation may be difficult to accomplish. If you cannot schedule students with particular technologists, then you must closely supervise them when they work with others and make sure they don’t pick up bad or sloppy habits. You should also point out to students those technologists they should try to emulate and encourage them to do so. Also, express your appreciation to those technologists who have done a good job with students. They are really the backbone of the program. Be sure to maintain a good line of communication with the staff. You should not only inform them of clinical policies and procedures, but should frequently “feel them out” about your students. If a student is having problems, usually the staff is the first to know and if you maintain a good relationship with the staff, you can help a student to correct his/her problems before they become habits. Make sure the staff understands you are there to help students, not punish them.
3. **CLINICAL SCHEDULES:**

Preparing a schedule for your students is one of the most important and frustrating things you must do. Before making a schedule you should sit down with your student(s) and look over his/her CERB List of Examinations. You will notice that on the list is the date of completion for examinations previously evaluated. We strongly recommend that you sit down with each student each semester and assess his/her progress to this point. All other exams, after they have been covered in Procedure classes, may be tested for competency. Student should not attempt to be tested for competency on exams they have not yet had classroom instruction on. This, however, is not to say that students may not observe or take a participatory role in these procedures. In fact, we encourage students to take part in as many different exams as they can as opportunities arise. This is how student may build up their numbers of performs for an exam because students need to have a given number of performs on an exam prior to testing for competency on that exam. This number of performs is found on the Competency Evaluation Form itself. After assessing each student’s needs, you may need to modify the student’s schedule to meet the objectives. Keep up to date on your department statistics. If your department does a large number of a particular exam, you may be able to schedule more than one student to achieve that objective. On the other hand, if certain exams are infrequent, you must make arrangements so that students can be in on them when they are done. Otherwise, you may find yourself, for example, with one month left in the program and four students who still need to gain experience and be tested for BE’s. Making a clinical schedule for students is quite different from making a rotation schedule for technologists. The objective is not “to get work done” or “cover the department” but to allow students to become competent and maintain their competence in an organized fashion. Students are there to learn and they must understand that their scheduling is designed for this purpose. Schedules should be designed in a flexible manner so that:

a. The objectives are accomplished for all students in a timely and fair manner.
b. Students can be pulled from their assigned area to observe or practice infrequent exams.
c. Students do not waste their time. This can be avoided by:

1. Splitting a clinical assignment up during the day.
   - ex. A.M. GI work - Room 5
   - P.M. General work – Room 6
2. Rotating a busy room among different students
   - ex. Chest room P.M. only
   - Mon. Wed.
   - Dick Jane
d. Rotating students to a busy area if their assigned area is not doing anything and is expected to remain so for the rest of the day.

4. USE OF “SLOW TIMES”
Even the busiest of departments has some days in which literally nothing is going on in the afternoon. You can use these times for several purposes. Keep materials organized for:
   a. Informal image evaluation sessions
   b. Review of policies/rules.
   c. Positioning, technique, or equipment use instruction.
   d. Informal talks to get feedback from students. They will usually have a list of gripes a mile long, but you still need to hear them out, so you can find out what is going on in their minds. Caution: Do not try to come up with solutions to problems at these meetings. Merely make a note to check things out and decide what to do later when you have time to think.
   e. Study sessions for school work. Your role here should be as a facilitator and resource person, not as a preceptor.

Instruction and Evaluation

CREATING A FAVORABLE LEARNING ENVIRONMENT

Students are people. Supervisors and administrators are people. The clinical preceptor must learn to get along with both groups. It has been proven that emotional factors influence learning. Favorable attitudes such as feeling of confidence tend to increase the level of student achievement, while unfavorable attitudes or strong emotions such as the fear of failure may block learning entirely. A student who is angry or worried cannot learn effectively.

The preceptor may be guilty of interfering with the development of good personal relationships. Many of the traits which aggravate students, such as aloofness and sarcasm, are protective devices which the preceptor often used to hide inadequate preparation or lack of confidence. The “ivory tower” notion of separation between preceptor and student is a convenience for the person who does not want to make the effort to get to know their students, even though it is a well-established principle of learning that positive personal relations between a preceptor and students contribute to learning.

Students respond very quickly to genuine interest. If they believe that the preceptor likes them and has confidence in them, they will generally have a greater desire to achieve. It must be remembered that the preceptor who has a good interpersonal
relationship with his/her students can require and get much more achievement from them in the long run than one who is disliked, resented, or not respected for his/her ability.

YOUR RELATIONSHIP WITH STUDENTS

As a preceptor, you are always being observed and “sized up” by your students and this impression has a major effect on the way they respond to you as a preceptor. If they respect you and like you, your job will not only be easier, but you will turn out a better product.

Try to follow these suggestions:
1. Be Friendly. The preceptor who meets both students and associates with a smile and a word of greeting will find it easier to work and get along with them. A free and natural relationship should be maintained with fellow technologists as well as with students.
2. Compliment Achievement of Others. From time to time, a technologist will have success with a particular approach to some student’s problem. When this happens, a compliment will show an active interest in the ability of a colleague as well for the progress of a student.
3. Use of Tact and Consideration. Consider the feeling of others. Since we cannot know how other feel about many things, we should be cautious in situations that may prove embarrassing. Dogmatic statements about such issues as politics, race, or the value of one school subject over another are best avoided. However, controversial matters can and should be discussed with tact and understanding by well-informed people, if we are to make progress. The important thing is to think first and talk second. We can seldom have meaningful discussions if we are judged to be unreasonably opinionated. We can be honest with our students and colleagues if we are perceived by them as willing to listen and consider other points of view which would alter our own beliefs.
4. Maintain Good Personal Appearance. It has been said that a man gets no credit for shaving but much discredit for not shaving; and likewise, a woman may receive little credit for well-groomed hair but much discredit for hair that looks uncombed or poorly styled. Cleanliness and neatness in appearance are assets in any job, but a preceptor is in a position to be observed closely and poor grooming can have an adverse influence on students and colleagues alike. Your associates get their first impression of you from your general appearance and this may last a long time.
5. Be a Professional. In the best sense of the word a “pro” in the instructional arena takes pride in the role and demonstrates a high degree of ethical behavior in dealing with others. Further, the pro takes pride in being competent as an educated person. There is not always a direct relationship between education and the number of years of school attendance. According to the Carnegie Foundation for the Advancement of
Teaching, the educated person is intellectually curious, thinks critically, weighs evidence dispassionately, is tolerant, temperate, balanced in judgment, possesses maturity, is not intellectually lazy or slovenly, and does not permit rational processes to be at the mercy of fears and prejudices. Try to avoid these habits:

1. **Bluffing.** The preceptor who attempts to bluff when he/she does not know what to say or do is not respected by students. No preceptor can know everything about the subject. It must be expected that students will ask questions that the preceptor cannot answer. When this happens, the preceptor should not feel threatened and display, either through verbal tone or expression, disgust, frustration, or irritation that might cause the timid student to withhold further questions.

2. **Using Sarcasm.** There is never a place for sarcasm and ridicule in teaching. Be fair, firm, and friendly. The use of sarcasm puts the student in a frame of mind where he/she is unable to learn because his/her attention is focused on the cause of the resentment and not on the lesson. Sarcasms are too frequently viewed as a “put down” and are a source of embarrassment that is avoided by effective preceptors.

3. **Being “Hard Boiled”.** A preceptor may seek to establish a reputation for being “tough” by using aggressive behavior, frowning, a commanding voice, and the display of a hardboiled attitude; by bragging or threatening that few A’s are given or that extraordinary effort must be expended to pass the course; refusing to repeat anything that has been said or acting as though the student must be driven rather than lead; never considering the feelings of the students. The hardboiled preceptor seems to believe that students can be bullied into learning. Such techniques discourage students from trying to cooperate with the preceptor and fill them with fear and disgust. Very little learning can take place when the student feels fear, disgust, or resentment. It is essential that a preceptor develop a good measure of patience and tact. Sometimes it demands a great deal of self-control and maturity, but the real pro does it because it facilitates learning.

**THE INSTRUCTION PROCESS**

As we discussed in the sections Students and The Learning Process, the student in clinical education gradually passes from an initial stage of passive observation, to a more active participation in a procedure, to a final stage of independent practice under supervision. At all of these points, instruction can be useful. However, the methods vary depending on the stage of proficiency of the student. The desired level of proficiency comes when the student is able to perform the procedure alone, smoothly, and without any technical assistance. The effective clinical preceptor is one who can help the student to this point without interfering with the natural motivation to learn and one who can help to minimize the frustrations inherent in learning a difficult task. Such effectiveness requires organization, commitment, and patience.
Remember that what may seem obvious or simple to you may be bewildering to the student. Don’t assume knowledge on the student’s part, particularly when using technical terminology. Explain technical terms or slang as you go along.

Generally, you can follow these steps in clinical instruction to be most effective. Repeat any of the steps as necessary:
1. Be prepared for demonstration lessons:
   a. Have everything ready, including all materials needed.
   b. If possible, have printed materials ready for the students to follow along with as discussed in the section on organizing the Clinical Site.
2. Demonstrate the procedure:
   a. Show one step at a time.
   b. Present steps in proper order.
   c. Ask questions.
   d. Make key points stand out.
   e. Don’t try to show too much at one time.
3. Let the student help with parts of the procedure.
   a. Positioning for one view or more.
   b. Setting technique.
   c. Avoid minor tasks the student is familiar with, such as passing the image receptor.
4. When he/she feels ready, let the student try to do the procedure.
   a. Step aside and give the student a chance to devote his/her full attention to the job.
   b. Don’t be too quick to suggest changes on small things. The student will feel better if permitted to solve even the smallest problem without the help of an overeager preceptor.
   c. Step in when necessary to prevent a repeat or patient problems, but in as impersonal a manner as possible, criticize the act, but not the person.
   d. Watch your blood pressure. Take time to cool off. Put yourself in the other person’s shoes.
5. Let the student continue to practice the procedure(s) until his/her movements become automatic.
6. When the student indicates readiness and you are satisfied that he/she can do the procedure, you are ready to evaluate.

**Competency Evaluation**

There are two factors which can be used to evaluate competency in radiologic procedures:

1. The way the procedure was performed.
2. The final product (the image).
In the system of clinical education for Coastal Bend College Radiography Program, we use both factors to help us determine competency. The first factor, the process, is called the Procedure Evaluation. The second, the product, is called the Image Evaluation. We are primarily interested in the process, but the product can assist us to check things like positioning and technique. A poor image does not necessarily mean the procedure was done poorly. Pathology, unusual anatomy, equipment malfunction, and other things not under the control of the student can cause an image to be inadequate. By the same token, a good image does not mean the procedure was done correctly. We cannot evaluate smoothness and efficiency or patient care from an image. We must observe the student while the procedure is being done, from the moment the student goes for the patient, to the moment all the paperwork is completed and the images are sent for reading. So we need all aspects of the examination, both Procedural and Image, to be evaluated.

What is the criterion we use for judging competency? We cannot expect perfection or if we do, we can expect very few students to become technologists. The criterion we use is partially subjective. We are training students for entry-level jobs; therefore, we expect them to be at least able to perform a procedure at entry-level standards. That is, with a certain degree of knowledge about the procedure, a certain amount of smoothness, and a certain amount of judgment. All these adjectives are very loose, and therefore, subjective. We desire as much objectivity and conformity in our evaluations as possible, but due to the nature of the field of radiologic technology, there are no commonly agreed on standards of performance which can be scientifically measured and expected to be consistent time after time. In view of this situation, how can we be consistent and fair in our evaluations? We must depend on your judgment and standards. The concept is quite simple: If they do it right, pass them, if they don’t do it right, have them re-tested. If you have difficulty deciding about a student’s competency, you might ask yourself the following two questions:

1. Would I feel comfortable letting the student perform the procedure on me or a member of my family?
2. Could I, in my best judgment, have done any better?

Remember, that once you have judged a student competent, you are saying that you trust him/her to work with only indirect supervision. If you still feel uncomfortable about passing a student it is probably better not to do so. Tell the student you would like to watch him/her do another procedure before passing him/her.
PROCEDURE FOR COMPETENCY EVALUATION

1. The student indicates to the clinical preceptor when he/she is ready to be tested for competency on a particular procedure.
2. The student present to the clinical preceptor the evaluation form for that particular exam.
3. The clinical preceptor checks the competency form to make sure that all necessary performed exams have been documented.
4. The clinical preceptor observes the student in all phases of the exam: evaluation of the request, patient contact, positioning, technical factor, etc.
5. Evaluation of the procedure is according to the objectives listed on the competency form.
6. After the Procedure Evaluation is completed, Image Evaluation is conducted according to the objectives listed on the competency form.
7. Each objective is on a pass/fail basis. Either the student met the objective or he/she did not.
8. A score can be determined by adding up the number of objectives met and dividing by the total number of objectives.
9. A total score, from both sides, of 85% is needed for successful completion of the evaluation.
10. If a student is unsuccessful in the examination, have him/her perform more procedures before retesting. If the student passes the evaluation, remember to sign and date in the appropriate places.
11. Upon completing the evaluation, go over the evaluation with the student as soon as possible. This way the student’s performance is still fresh in your mind and you will be able to communicate any problems you may have observed. If you wait until the end of the day, you may have forgotten key items you wanted to bring to the student’s attention.
12. Give the evaluation form to the student; record keeping is the student’s responsibility.

COMPETENCY EVALUATION HINTS:

1. If you feel uncomfortable about signing the student off, don’t. Don’t accept marginal work.
2. If you have to step in during the evaluation to correct a mistake, score it as though the mistake was made. Don’t compromise the health of the patient or the quality of the exam. However, give the student every reasonable chance to find his/her mistake before you step in. A rule of thumb is to stop him/her right before he/she makes the exposure, unless waiting would compromise patient care.
3. Make sure the student does the procedure unassisted, except for cases which require two or more people. The student is expected to be in charge and to control all aspects of the procedure.
4. Don’t talk about evaluations in front of the patient or let the patient know, the student is being evaluated.
5. Tell students before they are to be evaluated and before the patient is in the room.
6. Remember to check the competency form for evidence of enough experience.
7. On repeats use your judgment. On a case which requires five or six projections, one repeat might be reasonable depending on patient difficulty, difficulty of procedure, etc.
8. The student is not to be charged for anything not his/her fault or beyond his/her control, i.e. an equipment malfunction, processor faults, computer error, etc.
9. Watch the student from start to finish of the procedure, from getting the patient to turning in the image for reading.
10. Remember that your job is to evaluate competencies, not give out grades. Don’t let a marginal job get by, just because the student needs the exam to complete requirement for the course. It is no reflection on you if the student does not get an “A”. The grade the student has earned is based on the student’s motivation and knowledge. A student’s grade does not reflect on your ability as a clinical preceptor. You must remember that a student passed by you can now do that exam with indirect supervision. This is a big responsibility.

**STUDENT DISCIPLINE:**
College faculty have the primary responsibility for student discipline and any problems are to be referred to them. The responsibility of the clinical preceptor is to accurately document any incidents or patterns of poor behavior and refer them to the college faculty. It is recognized, however, that the clinical preceptor can play an important part in preventing a pattern of poor behavior by proper counseling of students, especially since he/she is in the clinical site continuously. The clinical preceptor should also have input into the initial conference if disciplinary action is to be taken.

There are two primary ways that problem behavior is handled. If the behavior relates to a factor on which the student is regularly evaluated, Professional Performance Evaluation, the student’s grade will suffer, up to and including failing the course. On the other hand, if the behavior involves something outside the evaluation scheme, i.e. stealing, then the college must take formal disciplinary action. Remember the clinical site has the right to ask that the student be removed from their site for cause. The facility just needs to let us know.

**DOCUMENTATION:**
Some type of documentation should be used any time you notice a clinical, hospital, departmental, or program rule violation. It should also be documented when the student needs to be corrected on some matter which might affect his/her evaluation. For most minor matters, it seems reasonable to only counsel the student verbally the first time something happens. Should it occur again, then you need to begin to document it. Some hints are as follows:

1. Get the facts, all the facts, as soon as possible.
2. Write you documentation now, don’t wait.
3. Call in the student and inform him/her of the problem.
4. Hear the student out. They may not be at fault or there may have been a misunderstanding.
5. Counsel the student. Criticize the act, never the person. Explain why the behavior is not acceptable. Ask the student if he/she is willing to modify his/her behavior. Let the student have input into how to handle the situation.
6. If a course of action is agreed upon, write it down and have the student write it down. If the problem can’t be resolved, call the college faculty.
7. If the student was not at fault or there was a misunderstanding, do not throw your notes and documentation. Merely make a notation in your notes. Have both you and the student sign.
8. Give a copy to the college faculty and retain one for your records.

Clinical Education Policies

In this section we will discuss policies of the Radiologic Technology Program at Coastal Bend College which are applicable to clinical education. The format being used is: we will state the policy of the program and then, in bold italics, give an explanation of the policy, what it is designed to achieve.

PROFESSIONAL BEHAVIOR

As a representative of Coastal Bend College and the Radiologic Technology Program students are subject to the rules of the clinical site as well as the rules of CBC. It is of paramount importance that students maintain the highest standards of professionalism.

To perform at a professional level, the student must:
1. Treat all persons with kindness, courtesy, and respect.
2. Take initiative.
4. Respect patient privacy.
5. Attempt to establish rapport with fellow students, technologist, patients, and other personnel.
6. Maintain a cooperative and uncomplaining attitude.

The student will adhere to the following policies while at the clinical facility:
1. Smoking, smokeless tobacco, eating, drinking, or chewing gum is permitted only in designated areas.
2. Students will not leave their assigned area at any time without permission.
3. Students will not remain in the Radiology Department after clinical hours except when on duty.
4. When not actively engaged in radiographic work or other duties, students will remain in their assigned areas and not congregate in offices, halls, or other rooms.
5. Personal telephone calls are not encouraged. No calls will be made, or received, from the work area except in an emergency. No one will leave a patient unattended to talk on the telephone.
6. Electronic devices, such as pagers and cellular phones, are not permitted in patient care areas.
7. Students will wear uniforms during assigned clinical hours.

Professional behavior is not limited to contact with any single group of people. It is reflected in attitude and in communication with physicians, supervisors, and co-workers as well as patients. Examples of non-professional behaviors are:
1. Gossip.
2. Disclosure of medical information with patients or relatives.
3. Discussions pertaining to clinical in public areas (e.g. elevators, cafeterias).
4. Discussions of inappropriate subject matter within hearing of patients, visitors, or others.
5. Consumption of food in patient areas (including gum).
7. Dirty/inappropriate jokes.
8. Loitering.

Students are responsible for their own actions and must not engage in any activities considered non-professional or non-conducive to proper patient care. Failure of a student to maintain a professional attitude may result in reduction of clinical grade, course failure, and possible expulsion from the program. If a student senses a problem in the clinical environment involving him or herself, contact the Clinical Preceptor immediately.

This policy tries to detail, to the student, behavior that is acceptable and that is not acceptable. This list is not all inclusive. We have tried to lay a foundation for student behavior. As a guide, ask yourself if this is the type of behavior demonstrates the
professional values you have tried to instill in the student. If a student is not following the Professional Behavior policy, in the interest of student learning and professional conduct, the student will need to be counseled as to the unacceptable behavior. If the behavior is overt or disruptive to other students, technologists, or patients, remove the student from the patient care area. Counsel the student regarding the behavior, listen to the student’s side of the problem, document your findings, and call the college.

PROFESSIONAL APPEARANCE

Hospitals and their employees are expected to set examples of cleanliness and appearance. The “Dress Code” of a hospital will usually set minimum standards. Students are expected to meet these guidelines.
1. Clean and pressed uniform.
2. Clean and polished shoes.
3. Clean hands and fingernails. Fingernails must be kept short - fingernail polish should not be applied.
4. A mustache or beard is permitted so long as it is kept neatly trimmed.
5. Hair must be kept neat and clean; if long, must be pulled up off the collar.
6. Excessive perfume and cosmetics are not permitted.
7. Only a wedding ring, watch, and one small stud earring in each ear is allowed. No necklaces or bracelets or other adornments are allowed. Med-Alert and religious medallions are to be worn inside the tunic.
8. No visible body piercing is permitted.
9. Visible tattoos are not appropriate for the hospital environment and must be covered during clinical attendance.

UNIFORM POLICY
The uniform will consist of the following:
1. Top and Pants as determined by program.
2. Black lab coat (optional).
3. Program Patch - sewn on the left sleeve no more than two inches from the shoulder seam. The program patch must be visible on the left sleeve of all external garments.
4. Dosimetry badge.
5. Name tag.
6. X-ray markers.
7. **Black** leather shoes.

Proper attire includes all of the items listed above. Each student should have two uniforms. If a student is not in proper uniform, the Clinical Preceptor or Clinical
Coordinator will send the student home and require the student to return to work properly attired. In the event a trip home is necessary, the student will be counted as tardy for that day.

*Student professional appearance is a basic component of professionalism. Students must be compliant with the program’s policy on professional appearance. If a student is not in compliance with the policy, send the student home and he/she will be counted as absent for the day.*

**SUPERVISION/REPEAT POLICY**

Until a student achieves and documents competency in any given procedure, all clinical assignments shall be carried out under the direct supervision of qualified radiographers. The parameters of direct supervision are:

1. A qualified radiographer reviews the request for examination in relation to the student’s achievement,
2. A qualified radiographer evaluates the condition of the patient in relation to the student’s knowledge,
3. A qualified radiographer is present during the conducting of the examination, and,
4. A qualified radiographer reviews and approves the radiographs.

In support of professional responsibility for provision of quality patient care and radiation protection, unsatisfactory radiographs shall be repeated only in the presence of a qualified radiographer, regardless of the student’s level of competency.

After demonstrating competency, students may perform procedures with indirect supervision. *Indirect supervision* is defined as that supervision provided by a qualified radiographer immediately available to assist students regardless of the level of student achievement.

*Immediately Available* is interpreted as the presence of a qualified radiographer adjacent to the room or located where a radiographic procedure is being performed. This availability applies to all areas where ionizing radiation equipment is in use.

When a student performs an examination and that examination must be repeated, the student **must** have a registered technologist assist in the repeat examination. Determination of a film to be repeated is by the clinical education facility.

*Proper supervision of students in the clinical setting is crucial to both the student and the program. Compliance with this policy is required by program accreditation and is crucial to quality patient care.*
ATTENDANCE
Attendance at all clinical assignments is mandatory. Attendance for didactic portions is that set by the preceptor and/or college policy.

All students are expected to attend all clinical sessions. In the event of sickness or other incidents requiring absences, the clinical preceptor at the student’s clinical site must be notified as soon as possible. It is the responsibility of the student to notify the clinical preceptor if the student will be absent. Student attendance will be reflected in the Student Performance Evaluations and the grade earned for clinical education. Appointments to see doctors or dentists are to be made so that they do not interfere or conflict with Radiologic Technology classes or clinical time. Students not in assigned clinical areas due to doctor or dentist appointments or employment orientation will be considered as absent.

Two days of absence from clinical education are allowed each semester. After the second absence, starting with the third absence, the student’s clinical grade will be reduced one letter grade for each absence. In the event a student has missed two consecutive days, the returning student must bring a doctor’s excuse and a receipt of service from the care provider.

Up to three days leave will be granted in the event of the death or serious illness of an immediate family member: mother, father, mother-in-law or father-in-law, sister, brother, husband, wife, child, or grandparent, only. The students will inform, in writing, the program of their plans. Documentation of the funeral must be provided to the program.

TARDINESS
If a student is late less than thirty minutes, the student will be considered as tardy. Three (3) tardies will equal one absence. If the student is more than thirty minutes late or has to leave clinical more than thirty minutes early, then the student is considered as absent.

Attendance at all clinical assignments is required of all students. Accurate records of attendance are needed; students are to clock in and out for that specific day only, on the clinical portal, Trajecks. Document a student’s absence and/or tardiness on the student’s Professional Performance Evaluation done bi-weekly.