

Subject Area Committee Name: Medical Imaging - Radiography

Focal Outcome Being Assessed: Professional Competence

Contact Person:

<i>Name</i>	<i>e-mail</i>
Dawn Coakes Gayle Wright	Dawn.coakes@pcc.edu Gwright@pcc.edu

This form is for the initial assessment of a focal outcome.

- Refer to the help document for guidance in filling out this report. If this document does not address your question/concern, contact [Nora Stevens](#) to arrange for coaching assistance.
- Please attach all rubrics/assignments/etc. to your report submissions.
- **Subject Line of Email:** Assessment Report Form (or ARF) for <your SAC name> (Example: ARF for NRS) *ARF for RAD*
- **File name:** SACInitials_ARF_2018 (Example: NRS_ARF_2018) *RAD_ARF_2018*
- SACs are encouraged to share this report with their LAC coach for feedback before submitting. *Emailed @12:00 on 11/27/17 to Peter Gramlich. Emailed @13:00 on 11/27/17 to LAC.*
- Make all submissions to learningassessment@pcc.edu.

Due Dates:

- **Planning Sections of LAC Assessment or Reassessment Reports: November 27th, 2017**
- **Completed LAC Assessment or Reassessment Reports: June 16th, 2018**

Please Verify This Before Beginning this Report:

This project is not the second stage of the assess/reassess process (if this is a follow-up, re-assessment project, use the LAC Re-assessment Report Form CTE. Available [here](#)).

1. Outcome Chosen for Focal Analysis

1A. How does your field interpret the outcome you are assessing?

First year students seem to struggle in professional competence with the various fluoroscopic equipment, machine function, radiation dose, procedures and troubleshooting at their assigned clinic sites by the end of winter term. We wish to investigate if a new clinical fluoroscopic assignment that utilizes research, skills proficiency check-off and a small group presentation during winter term will change their comfort and competence level. Competence will be measured at the end of Winter term by a self-assessment survey and compilation of project scores.

1B. If the assessment project relates to any of the following, check all that apply:

Degree/Certificate Outcome – if yes, include here:

PCC Core Outcome – if yes, which one: Professional Competence

Course Outcome – if yes, which one: RAD120 Radiography Clinic II

Exploratory Outcome – if yes, briefly describe:

2. Project Description

2A. Assessment Context

Check all the applicable items:

Course-based assessment.

Course names and number(s): RAD120 Radiography Clinic II

Type of assessment (e.g., essay, exam, speech, project, etc.): Research, skills proficiency check-off, small group presentation

Are there course outcomes that align with this aspect of the outcome being investigated? Yes No

If yes, include the course outcome(s) from the relevant CCOG(s): RAD120 Syllabus (Appendix A – Section 4) Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes the application of equipment manipulation and operation, radiological imaging procedures, radiation

protection and patient care. Requires completion of clinical competencies, objectives, evaluations and attendance. Demonstrate fundamental skills in performing routine radiography, fluoroscopy, patient care and radiation protection.

Common/embedded assignment in all relevant course sections. An embedded assignment is one that is already included as an element in the course as usually taught. Please attach the activity in an appendix. If the activity cannot be shared, indicate the type of assignment (e.g., essay, exam, speech, project, etc.):

Common – but not embedded - assignment used in all relevant course sections. Please attach the activity in an appendix. If the activity cannot be shared, indicate the type of assignment (e.g., essay, exam, speech, project, etc.):

Practicum/Clinical work. Please attach the activity/checklist/etc. in an appendix. If this cannot be shared, indicate the type of assessment (e.g., supervisor checklist, interview, essay, exam, speech, project, etc.): **See attachment in Appendix B, Part 2.**

External certification exam. Please attach sample questions for the relevant portions of the exam in an appendix (provided that publically revealing this information will not compromise test security). Also, briefly describe how the results of this exam are broken down in a way that leads to nuanced information about the aspect of the core outcome that is being investigated.

SAC-created, non-course assessment. Please attach the assessment in an appendix. If the assessment cannot be shared, indicate the type of assignment (e.g., essay, exam, speech, project, etc.):

Portfolio. Please attach sample instructions/activities/etc. for the relevant portions of the portfolio submission in an appendix. Briefly describe how the results of this assessment are broken down in a way that leads to nuanced information about the aspect of the core outcome that is being investigated:

TSA. Please attach the relevant portions of the assessment in an appendix. If the assessment cannot be shared, indicate the type of assignment (e.g., essay, exam, speech, project, etc.):

Survey See attachment in Appendix C.

Interview

Other. Please attach the activity/assessment in an appendix. If the activity cannot be shared, please briefly describe it:

In the event publicly sharing your assessment documents will compromise future assessments or uses of the assignment, do not attach the actual assignment/document. Instead, please give as much detail about the activity as possible in an appendix.

2B. How will you score/measure/quantify student performance?

- Rubric** (used when student performance is on a continuum - if available, attach as an appendix – if in development, attach to the completed report that is submitted in June)
- Checklist** (used when presence/absence rather than quality is being evaluated - if available, attach as an appendix – if in development, attach to the completed report that is submitted in June)
- Trend Analysis** (often used to understand the ways in which students are, and are not, meeting expectations; trend analysis can complement rubrics and checklist)
- Objective Scoring** (e.g., Scantron-scored examinations)
- Other** – briefly describe: Survey

2C. Type of assessment (select one per column)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Quantitative | <input checked="" type="checkbox"/> Direct Assessment |
| <input type="checkbox"/> Qualitative | <input checked="" type="checkbox"/> Indirect Assessment |

If you selected ‘Indirect Assessment’, please share your rationale: The Quantitative Assessment will be the rubric scores from the small group presentation. The Direct Assessment will be observing student performance of proficiency skills check-off. Indirect assessment will be the self-assessment survey we will use at the end of the term to see if students feel more proficient in fluoroscopic skills.

Qualitative Measures: projects that analyze in-depth, non-numerical data via observer impression rather than via quantitative analysis. Generally, qualitative measures are used in exploratory, pilot projects rather than in true assessments of student attainment. Note that the **use of a numerical rubric is considered quantitative analysis**, even if the artifacts under consideration are not based on quantitative calculations (e.g. an essay scored by a rubric counts as quantitative in the context of assessment).

Indirect assessments (e.g., surveys, focus groups, etc.) do not use measures of direct student work output. These types of assessments are also not able to truly document student attainment.

2D. Check any of the following that were used by your SAC to create or select the assessment/scoring criteria/instruments used in this project:

- Committee or subcommittee of the SAC collaborated in its creation
- Standardized assessment
- Collaboration with external stakeholders (e.g., advisory board, transfer institution/program)

- Theoretical Model (e.g., Bloom’s Taxonomy)
- Aligned the assessment with standards from a professional body (for example, The American Psychological Association Undergraduate Guidelines, etc.)
- Aligned the benchmark with the Associate’s Degree level expectations of the Degree Qualifications Profile
- Aligned the benchmark to within-discipline post-requisite course(s)
- Aligned the benchmark to out-of-discipline post-requisite course(s)
- Other (briefly explain:)

2E. In which quarter will student artifacts (samples of student work) be collected? If student artifacts will be collected in more than one term, check all that apply.

- Fall
 Winter
 Spring
 Other (e.g., if work is collected between terms)

2F. What student group do you want to generalize the results of your assessment to? For example, if you are assessing performance in a course, the student group you want to generalize to is ‘all students taking this course.’

All first year students taking RAD120 – Radiographic Clinic II.

2G. There is no single, recommended assessment strategy. Each SAC is tasked with choosing appropriate methods for their purposes. Which best describes the purpose of this project?

- To measure established outcomes and/or drive programmatic change**
- To participate in the Multi-State Collaborative for Learning Outcomes Assessment**
- Preliminary/Exploratory investigation**

If you selected ‘Preliminary/Exploratory’ (most often a ‘pilot study’), briefly describe why you opted to do a pilot study, along with your rationale for selecting your sampling method:

2H. Which will you measure?

- the population** (all relevant students – e.g., all students enrolled in all currently-offered sections of the course)
- a sample** (a subset of students)

If you are using a sample, select all of the following that describe your sample/sampling strategy (refer to the Help Guide for assistance):

- Random Sample** (student work selected completely randomly from all relevant students)

- Systematic Sample** (student work selected through an arbitrary pattern, e.g., 'start at student 7 on the roster and then select every 5th student following'; repeating this in all relevant course sections)
- Stratified Sample** (more complex, consult with an LAC coach if you need assistance)
- Cluster Sample** (students are selected randomly from meaningful, naturally-occurring groupings (e.g., SES, placement exam scores, etc.))
- Voluntary Response Sample** (students submit their work/responses through voluntary submission – e.g., via a survey)
- Opportunity/Convenience Sample** (only a few instructors are participating in a project taught via multiple sections, so, only those instructors' students are included)

The last three options in bolded red have a high risk of introducing bias. If your SAC is using one or more of these sample/sampling strategies, please share your rationale: N/A

2I. Briefly describe the procedure you will use to select your sample (including a description of the procedures used to ensure student and instructor anonymity.)

All first year students participating in RAD120 – Radiography Clinic II will be required to participate in the fluoroscopic project and assessment as outlined in their clinical syllabus. The instructor in charge of clinic, Dawn Coakes, will be the one performing all Direct Assessment and will enter data into a spreadsheet without student names or identification. Surveys completed at the end of term will be automatically sent via our online record keeping system, E-value, and results will also be anonymized.

2J. Follow this link to determine how many artifacts (samples of student work) you should include in your assessment: <http://www.raosoft.com/samplesize.html> (see screen shot below).

Start with the number of students you estimate will be enrolled in the course(s) from which you will draw the sample – that is your “population.” Enter the other numbers as indicated in the screenshot. The sample size calculator will tell you how many artifacts you need to collect. Enter that number below:

35

Raosoft Sample size calculator

What margin of error can you accept?
5% is a common choice

What confidence level do you need?
Typical choices are 90%, 95%, or 99%

What is the population size?
If you don't know, use 20000

What is the response distribution?
Leave this as 50%

Your recommended sample size is

10 %

90 %

105

50 %

42

The margin of error is the amount of error that you can tolerate. If 90% of respondents answer yes, while 10% answer no, you may be able to tolerate a larger amount of error than if the respondents are split 50-50 or 45-55. Lower margin of error requires a larger sample size. **Use 10% and 90% in these boxes.**

Confidence level is the amount of uncertainty you can tolerate. Suppose that you have 20 yes-no questions in your survey. With a confidence level of 95%, you would expect that for one of the questions (1 in 20), the percentage of people who answer yes would be more than the margin of error away from the true answer. The true answer is the percentage you would get if you exhaustively interviewed everyone. Higher confidence level requires a larger sample size. **Enter the total number of students currently enrolled in all sections of the courses you are assessing here.**

How many people are there to choose your random sample from? The sample size doesn't change much for populations larger than 20,000.

For each question, what do you expect the results will be? If the sample is skewed highly one way or the other, the population probably is, too. If you don't know, use 50%, which gives the largest sample size. See below under **More information** if this is confusing. **Measure this many students.**

This is the minimum recommended size of your survey. If you create a sample of this many people and get responses from everyone, you're more likely to get a correct answer than you would from a large sample where only a small percentage of the sample responds to your survey.

3. Project Mechanics

3A. Does your project utilize a rubric for scoring? Yes No

If 'No', proceed to section B. If 'Yes', complete the following: See Appendix D.

Which method of ensuring consistent scoring (inter-rater reliability) will your SAC use for this project?

Agreement – the percentage of raters giving each artifact the same/similar score in a norming session; ideally, that will be 75% agreement or greater.

If you are using agreement, describe your plan for plan for conducting the “norming” or “calibrating” session:

Consensus - all raters score all artifacts and reach agreement on each score

Consistency* – raters' scores are correlated: this captures relative standing of the performance ratings - but not precise agreement. Briefly describe your plan:

Notes: the agreement method is the most frequently used for assessment, but the **calculation of inter-rater reliability is also among the more challenging issues** within assessment as a whole. If your SAC is unfamiliar with norming procedures, contact your assessment coach, or if you don't know who your coach is, contact LAC Vice Chair [Chris Brooks](#) to arrange for coaching help for your SAC's norming session.

The consistency method is not generally recommended; see the help guide for details.

3B. Have performance benchmarks been specified?

The fundamental measure in educational assessment is the number of students who complete the work at the expected/required level. We are calling this SAC-determined performance expectation the 'benchmark.'

- Yes
- No

If yes, briefly describe your performance benchmarks, being as specific as possible (if needed, attach as an appendix):

We anticipate 100% of students to achieve 85% or better on the assessment rubric and to show at least 75% improvement in knowledge and skill between the Pre- and Post-RAD120 Clinic Fluoroscopic Survey.

If no, what is the purpose of this assessment? (For example, this assessment will provide information that will lead to developing benchmarks in the future; or, this assessment will lead to areas for more detailed study; etc.)

3C. The purpose of this assessment is to have SAC-wide evaluation of student work, not to evaluate a particular instructor or student. Before evaluation, remove student-identifying information (and, when possible remove instructor-identifying information). Please share your process for ensuring that all identifying information has been removed.

The instructor in charge of clinic, Dawn Coakes, will be the one performing all Direct Assessment and will enter data into a spreadsheet without student names or identification. Surveys completed at the end of term will be automatically sent via our online record keeping system, E-value, and results will also be anonymized. Information will be presented to our SAC by SAC Co-Chairs, Gayle Wright and Dawn Coakes with quantitative data and survey summary omitting all names and identification of individuals.

3D. Will you be coding your data/artifacts in order to compare student sub-groups? Yes No

If yes, select one of the boxes below:

- student's total earned hours
- previous coursework completed
- ethnicity
- other

Briefly describe your coding plan and rationale (and if you selected 'other', identify the sub-groups you will be coding for):

N/A

*3E. Ideally, student work is **evaluated** by both full-time and adjunct faculty, even if students being assessed are taught by only full-time and/or adjunct faculty. Further, more than one rater is needed to ensure inter-rater reliability. If you feel only one rater is feasible for your SAC, please explain why:*

Who will be assessing student work for this project? Check all that apply.

- PCC Adjunct Faculty within the program/discipline
- PCC FT Faculty within the program/discipline
- PCC Faculty outside the program/discipline
- Program Advisory Board Members
- Non-PCC Faculty
- External Supervisors
- Other:

End of Planning Section – Complete the remainder of this report after your assessment project is complete.

Beginning of End-of-Year Reporting Section – complete the following sections after your assessment project is complete.

4. *Changes to the Assessment Plan*

Have there been changes to your project since you submitted the planning section of this report? Yes No

If so, summarize those changes below:

N/A

5. *Narrative*

Broadly, what did your SAC learn from the assessment of the focal outcome under consideration this year?

Based upon the results of the Quantitative and Direct Assessments of first year student’s performance on the RAD120 Fluoroscopy Project, we have determined that the assignment is beneficial in increasing professional competence, self-reflection and proficiency in the specific area of Fluoroscopic Imaging within the clinic setting. It is recommended to keep this assignment in the curriculum.

6. Results of the Analysis of Assessment Project Data

6A. Quantitative Summary of Sample/Population

How many students were enrolled in all sections of the course(s) you assessed this year? 32

If you did not assess in a course, report the number of students that are in the group you intend to generalize your results to.

How many students did you actually assess in this project? 32

Did you use a recommended sample size (see the Sample Size Calculator linked to in section 2J)? Yes

No

If you did not use a recommended sample size in your assessment, briefly explain why:

We had three students withdraw from the program from when this assessment plan was submitted. We sampled 100% of the remaining population.

6B. Did your project utilize a rubric for scoring? Yes No

If 'No', proceed to section C. If 'Yes', complete the following:

How was inter-rater reliability assured? (Contact your LAC Coach if you would like help calculating this.)

Agreement – the percentage of raters giving each artifact the same/similar score in a norming session

Consensus - all raters score all artifacts and reach agreement on each score

Consistency – raters' scores are correlated: this captures relative standing of the performance ratings - but not precise agreement

Inter-rater reliability was not assured.

If you utilized agreement or consistency measures of inter-rater reliability, report the level here:

6C. Brief Summary of Your Results

1. If you used frequencies of benchmark achievement, report those here. For example, "46 students attained or exceeded the benchmark level in written communication and 15 did not." If necessary, provide detailed results in an appendix.

The Quantitative Assessment (rubric scores from the small group presentation) showed 32 students scored met benchmark or better on the assignment. Direct Assessment showed 32 of 32 students in a small group setting accurately demonstrating a skills check-off sheet. Indirect Assessment (self-evaluation survey) yielded perceived improvement with all 11 categories assessed.

2. If you used percentages of the total to identify the degree of benchmark attainment in this project, report those here. For example, "75% of 61 students attained or exceeded the benchmark level."

Direct Assessment: 100% of 32 students successfully completed a skills check-off sheet (Appx B). Quantitative Assessment: 100% of 32 students showed improvement in knowledge and confidence between the Pre- and Post-RAD120 Clinic Fluoroscopic Survey (Appx C) with a table exhibiting these changes included in Appx E. 100% of 32 students attained or exceeded the benchmark level on the Fluoroscopic Report Assessment Rubric (Appx D) with a chart exhibiting these changes included in Appx F.

6D. Attach a more detailed description or analysis of your results (e.g., rubric scores, trend analyses, etc.) as an appendix to this document. Appendix attached? Yes No

Appx E: RAD120 Fluoroscopy Project Self-Assessment Results 2018 and Appendix F: RAD120 Fluoroscopy Report Assessment Rubric Results 2018

6E. Do the results of this project suggest that academic changes might be beneficial to your students (changes in curriculum, content, materials, instruction, pedagogy etc.)? Yes No

If you answered 'Yes,' briefly describe the changes to improve student learning below. If you answered 'No', detail why no changes are called for.

We plan to implement this same project for RAD130 to address professional competence related to mobile fluoroscopy (C-arm) units within the surgical environment.

If you are planning changes, when will these changes be fully implemented?

Spring 2019

6F. Has all identifying information been removed from your documents? (Information includes student/instructor/supervisor names/identification numbers, names of external placement sites, etc.) Yes No

7. SAC Response to the Assessment Project Results

7A. Assessment Tools & Processes: Indicate how well each of the following worked for your assessment:

Tools (rubrics, test items, questionnaires, etc.):

very well some small problems/limitations to fix notable problems/limitations to fix completely inadequate/failure

Please comment briefly on any changes to assessment tools that would lead to more meaningful results if this assessment were to be repeated (or adapted to another outcome).

The rubric grading (Appx D) should be expanded in the section specific to Meets/Exceeds expectation; these should be separated by points rather than grouped together. Overall point values for the rubric should be worth more points for amount of work students put into their presentations.

Processes (faculty involvement, sampling, norming, inter-rater reliability, etc.):

very well some small problems/limitations to fix notable problems/limitations to fix tools completely inadequate/failure

Please comment briefly on any changes to assessment process that would lead to more meaningful results if this assessment were to be repeated (or adapted to another outcome):

Having one faculty perform the evaluations worked well and we do not expect a change.

8. Follow-Up Plan

8A. How will the changes detailed in this report be shared with all FT/PT faculty in your SAC? (select all that apply)

email phone call workshop
 campus mail face-to-face meeting other
 no changes to share

If 'other,' please describe briefly below.

8B. Is further collaboration/training required to properly implement the identified changes? Yes No

If 'Yes,' briefly detail your plan/schedule below.

8C. Re-assessment is a critical part of the overall assessment process. This is especially important if academic changes have been implemented. How will you assess the effectiveness of the changes you plan to make?

- follow-up project in next year's annual report on-going informal assessment
 in a future assessment project other

If 'other,' please describe briefly below.

Continue to monitor 4th term RAD140 Self-Assessment Survey for indicators of competence with fluoroscopy.

8D. SACs are learning how to create and manage meaningful assessments in their courses. This development may require SAC discussion to support the assessment process (e.g., awareness, buy-in, communication, etc.). Please briefly describe any successful developments within your SAC that support the quality assessment of student learning. If challenges remain, these can also be shared.

Faculty have shared changes or new strategies that have enabled them to identify students who are having problems with course information. "Muddy waters" types of questions are being asked. Also, online Q/A sessions are offered at scheduled times so students can engage in a "chat room" forum.

APPENDIX A

Student Name _____

COURSE SYLLABUS

DATE: January 2016
COURSE NUMBER: RAD 120
COURSE TITLE: Radiography Clinic II
CREDIT HOURS: 4.5
CLINIC HOURS PER WEEK: 16
NUMBER OF WEEKS: 10 weeks of clinic
PREPARED BY: Dawn Coakes

**RAD 120
RADIOGRAPHY CLINIC II
RADIOGRAPHY PROGRAM**

Portland Community College
Course Syllabus

Submit completed syllabus to your CIIC by last week of clinical

This Course Syllabus has been developed by Dawn Coakes, BS, R.T(R), Clinical Coordinator and Full-Time faculty of the Radiography Program.

(Last Revised: Fall 2017)

I. COURSE DESCRIPTION FOR PUBLICATION:

Prerequisite: RAD 110. Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes the application of equipment manipulation and operation, radiological imaging procedures, radiation protection and patient care. Requires completion of clinical competencies, objectives, evaluations and attendance.

II. ADDENDUM TO DESCRIPTION:

This course is designed as Introductory Level I. Radiography Clinic II (RAD 120) is required as part of the Radiologic Technology degree program. It is also a prerequisite for taking the American Registry of Radiologic Technologists examination for certification in Radiography. Transferability of credit depends entirely upon the institution to which the student wishes to transfer. Prior to enrolling in this course the student must be accepted in the Radiography Program and have successfully completed the required prerequisite courses.

III. INTENDED OUTCOMES FOR THE COURSE:

1. Demonstrate fundamental skills in performing routine radiography, fluoroscopy, patient care and radiation protection.
2. Participate as a team member in the workflow of the radiography department.

IV. COURSE ACTIVITIES AND DESIGN:

At the completion of RAD 120 the student must be able to progress to Level 2 in the Clinical Levels of Progression. This is required for enrollment into RAD 130.

VI. COURSE OUTLINE:

Due to the uniqueness and diversity of each clinical affiliate, the clinical objectives shall be stated in broad terms.

1. Clinical Proficiency
2. Medications/Code Cart Drugs
3. Sterile Technique
4. Fluoroscopic Guided Procedures
5. Radiation Exposure Controls
6. Radiographic Grids
7. Radiographic Generator Controls/X-ray Tube
8. Personnel Monitoring
9. Clinical Competencies
10. Activity and Repeat Logs
11. Technique Book
12. Radiologist Observation
13. Technologist Evaluations

VII. COURSE CONTENT:

The student will demonstrate understanding of the themes, issues, concepts, and development of the following skills to the Clinical Instructor in Charge (CIIC) or a certified Radiographer. The verifying RT(R) will initial and date on the line to the left.

RT(R) Verification/Date

1. Clinical Proficiency

_____ a. Continues to safely demonstrate proficiency of the clinical objectives for the previous term.

2. Medications/Code Cart Drugs

- Locate and state the indication for emergency drugs.

_____ A. Review the list of the drugs and supplies kept on the department's code cart or in emergency drug box and state the indications for these drugs.

3. Sterile Technique

- Practice proper sterile technique.

_____ A. Demonstrate the donning of sterile gloves without contaminating self.

_____ B. Demonstrate the opening of a sterile tray for an invasive x-ray exam and adding sterile items without contamination.

_____ C. Demonstrate assisting the physician during a sterile procedure without contaminating sterile field.

4. Fluoroscopic Guided Procedures

- Complete Clinical Fluoroscopic Check Sheet and small group fluoroscopy exam presentation.

_____ A. Complete fluoroscopic report part 1 with CIIC. Submit completed sheets to RAD 107 instructor - don't attach to syllabus - and have CIIC verify completion here.

_____ B. Complete fluoroscopic report part 2 with Clinical Coordinator and submit during site visit.

5. Radiation Exposure Controls

- Demonstrate the ability to properly use the radiation exposure controls.

_____ A. Explain how an automated exposure control (AEC) determines the x-ray exposure for a specific examination.

_____ B. Set the automated controls (back up time, kVp, chambers, etc.) for a specific radiographic exam.

_____ C. Explain the purpose of the back-up mAs when using AECs.

_____ D. Given a specific set of technique factors for manual technique, set the controls correctly.

6. Radiographic Grids

- Select appropriate grid type based on exam and use grid correctly.

_____ A. Differentiate between a stationary and non-stationary grid and give an example of when each is used.

_____ B. Identify the grid ratio in a given radiographic table, vertical bucky and stationary grid cap.

_____ C. Demonstrate proper tube alignment and centering to grids.

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7. Radiographic Generator Controls/X-ray Tube

- Demonstrate knowledge of the location of basic controls and components of radiographic equipment.

_____ A. Locate the mA and mAs digital readout.

_____ B. Locate the kVp digital readout.

_____ C. Locate the small and large focal spots (mA settings).

_____ D. Locate either the digital readout displaying wait time between exposures (when tube is cooling) or the anode/tube load readout, if available on any radiographic equipment.

_____ E. Locate the mA, kVp, and timer controls.

_____ F. Locate the plus and minus density controls on the display panel.

_____ G. Locate the anode and cathode end of the x-ray tube.

8. Personnel Monitoring

- Record your deep dose, and dates of the monitoring period from your latest monthly or quarterly monitoring report below.

Current deep dose _____ Start and End date of monitoring period _____

9. Clinical Competencies

_____ Complete five (5) different radiological examinations for clinical competency by producing diagnostic radiographs under the direct supervision of a certified radiographer by the end of the term. Correlation of competencies with RAD 102 and RAD 101 is required.

10. Activity and Repeat Logs

_____ A. Student has maintained documentation on E-value of radiographic procedures in the Activity Log.

_____ B. Student has maintained documentation on E-value of any of their repeats in the Repeat Log.

11. Technique Book

_____ A. Student has entered pertinent technical factors for their specific scheduled rotation into their personal technique book of choice (Merrill's Pocket Guide or mini address book).

12. Radiologist Observation

_____ A. Student has observed a radiologist for a minimum of 1 hour (goal 3 hours for term).

13. Technologist Evaluations

_____ A. Student has submitted a minimum of 2 evaluations of staff technologists.

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APPENDIX B

PCC's RADIOGRAPHY PROGRAM
CLINICAL FLUOROSCOPIC CHECK SHEET

Student Name: _____ Date: _____
 Clinic Site: _____ Term: _____
 Equipment Name/Location: _____ Grade (20 pts): _____

FLUOROSCOPIC REPORT – PART 1

Complete the following:

1. **Start up the fluoroscopic unit:** know the proper sequence and how to select the patient from the worklist. Know how to manually enter the correct patient information into system.
2. **Locate the following** in the fluoroscopic room and identify when these various components are used:
 - a. Image intensifier _____
 - b. Fluoro x-ray tube (not overhead) _____
 - c. Generator _____
 - d. Bucky slot cover (and how to move bucky) _____
 - e. Multifield button (list field sizes) (mag mode) _____
 - f. Grid for image intensifier _____
 - g. Compression for image intensifier _____
 - h. Brightness control (TV & II) _____
 - i. TV Monitor _____
 - j. TV Camera/CCD/Video capture _____
 - k. Collimator for II _____
 - l. Image format buttons _____
 - m. Fluoro unit table:
 - i. Buttons to make table top move _____
 - ii. Buttons to angle the table _____
 - iii. Fluoro stop guide _____
 - n. Foot pedal vs live fluoro vs image capture _____
 - o. Table accessories (shoulder bolster, handles, seatbelt, foot board) _____
 - p. Image intensifier locks _____
 - q. Other _____
3. Indicate whether each fluoroscopic unit has both **low- and high-level (boost)** fluoroscopic controls. What is the **exposure rate (R/min)** for each of these controls?

 If high-level fluoroscopy is available, identify how its use is distinguished from the use of standard (low) level. _____

4. Select one exam typically done with this unit and **calculate the fluoro dose** for an average size patient. (exam fluoro on time x dose/min = fluoro dose) _____

5. On the equipment control panel, locate the following **fluoro** controls:
 - a. kVp LOW END: _____ HIGH END: _____
 - b. mA LOW END: _____ HIGH END: _____
6. Indicate the **location of protective lead apparel** (aprons, gloves, glasses, etc.) and devices for both personnel and patients. When should it be used/or NOT used?

Protective Apparel/Devices	Location	When/Where Used

7. Indicate which, if any, of the following **dose-limiting activities** are used:
 - a. "Last image hold" or "freeze frame" _____
 - b. Indication of cumulative fluoro exposure time _____
 - c. Indication of cumulative absorbed dose to the skin _____
 - d. Real-time indication of dose rate _____
 - e. Pulsed vs continuous fluoro _____
 - i. How to change pulses/min _____
 - f. Recording of patient cumulative dose and/or fluoro _____
 - g. Changes in protocol/imaging parameters when imaging pediatric patients _____
8. Understand **basic troubleshooting** for equipment failure/malfunction.
 - a. If patient's name doesn't appear on worklist _____
 - b. If fluoro table machine won't show live fluoro or expose _____
 - c. If image intensifier gets stuck in certain position _____
9. Locate and read the **operating procedures** and **clinical protocols** for all fluoroscopic exams.

FLUOROSCOPIC REPORT – PART 2

1. Identify the **most common exams** performed in each of your fluoroscopic rooms:

2. When are these exams **typically scheduled**? Any **special instructions** to the patient?

3. You have been assigned to research a(an) _____ exam.

a. **DEFINE:**

- i. What is it?
- ii. What anatomy does it include?

b. **CONTRAST:**

- i. Which type(s) of and how much contrast are given?
- ii. How is it setup?
- iii. Any contraindications?

c. **DIAGNOSIS:**

- i. What is the doctor looking for?
- ii. What are some differential diagnoses for this exam?
- iii. Is it performed in conjunction with any other type of exam (can be non-imaging)?

d. **PROCEDURE:** List the steps to complete this exam

- i. Describe the room prep/add'l supplies required prior to getting patient and radiologist.
- ii. What are the dressing/gowning instructions?
- iii. What explanation of the test will you give your patient?
- iv. Are scout images necessary – if so, which ones?
- v. What questionnaires are required prior to the procedure? (Time-out, contrast, pregnancy, etc.)
- vi. What position(s) will you have your patient in for the exam?
- vii. Does this exam require any specimens to be collected – if so, where does it go?

e. **POST-PROCEDURE:**

- i. What needs to be documented within the RIS system?
- ii. What discharge instructions do you give to your patient?
- iii. Any special considerations post-procedure?

f. **IMAGE REVIEW:** Select 2 different images from your assigned exam to critique. These can be scout images, digital capture images, or post-procedure images. Discuss the following:

- i. All necessary anatomy demonstrated?
- ii. Rotation/tilt/part angulation.
- iii. Technical factors and correlating exposure index.
- iv. Are images diagnostic?

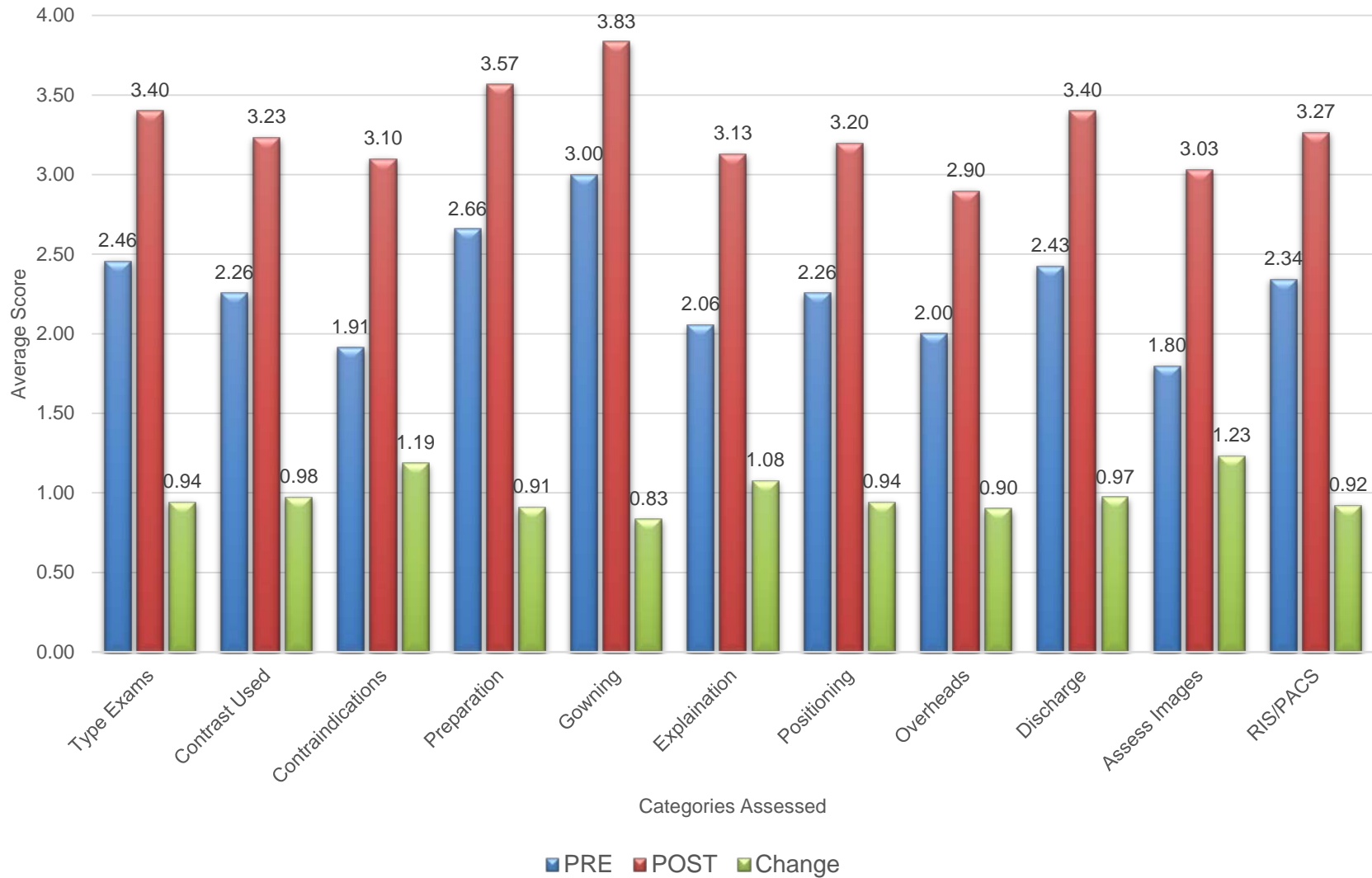
APPENDIX C

Pre- and Post-RAD120 Clinic Fluoroscopic Survey					
Rate your degree of familiarity/comfort with barium specific fluoroscopic procedures performed at your clinic site. These include: Esophograms, Swallowing Studies/VPS/Speech Path, Upper GI's, Small Bowel Follow Throughs, and Lower GI's/BE. <u>Do not</u> consider advanced procedures.					
Skill Description	No Knowledge	Only heard of, not observed	Observed some exams	Fairly comfortable, but not ready to comp exam	Confident I could achieve competency
	0	1	2	3	4
What TYPE of exams are performed in the fluoro rooms.					
What type of CONTRAST is used for various fluoro exams.					
Any CONTRAINDICATIONS for giving contrast.					
How to PREPARE the room.					
What the exam PREPARATION includes.					
GOWNING/DRESSING instructions to give patient prior to exams.					
Ability to EXPLAIN exams to the patient.					
What POSITIONING will be required of the patient for the exams.					
Any OVERHEAD VIEWS after the fluoroscopic procedure is complete.					
What DISCHARGE instructions are given to the patient.					
Ability to properly ASSESS IMAGES .					
What data is entered into RIS/PACS .					

APPENDIX D

Fluoroscopic Report Grading Rubric			
Criteria	Failing (0 pts)	Below Standards (Half pts)	Meets/Exceeds Standards (Full Points)
	<i>Fails to meet minimum standard. Information not included or incorrect.</i>	<i>Displays an incomplete understanding of the important concepts and/or has notable misconceptions 50% of the time or less.</i>	<i>Demonstrates a thorough understanding of the important concepts or generalizations. Concisely synthesizes information gathered.</i>
Definition (1 pt) - What is the exam and what anatomy does it include?	0	0.5	1
Contrast (1pt) - Which types of contrast are given, how is it setup, any contraindications?	0	0.5	1
Diagnosis (1pt) - What is the doctor looking for, is it performed in conjunction with any other exams, what are some differential diagnoses?	0	0.5	1
Procedure (2pts) - List the steps to complete this exam and describe room prep/addt'l supplies required. List dressing instructions and patient explanation of exam. Are scouts necessary and what questionnaire is required? How is patient positioned and does this exam require any specimens?	0	1	2
Post-Procedure (2pts) - What needs to be documented in RIS system, what are discharge instructions, and are there any special considerations post-procedure?	0	1	2
Image Review (2pts) - Select 2 images from exam and discuss: all anatomy demonstrated and diagnostic? Any rotation/tilt/part angulation? Technical factors and correlating EI?	0	1	2

APPX E - RAD120 Fluoroscopy Project Self-Assessment Results 2018



APPX F – RAD120 Fluoroscopy Report Assessment Rubric Results

Portland Community College

Radiography

Aggregate Student Performance

Evaluation Type: Fluoroscopy Project Image Critiques

Time Period: 01/01/2018 to 04/01/2018

Time Period Type: Request Date

Report Date: 06/11/2018

Question ID	Question	Applicable Answers	Mean	Scale	Std
3027308	Definition What is the exam what anatomy does it include?	32	3	1 to 3	0
3027309	Contrast Media Which types of contrast are given, how is it set-up, and any contraindications?	32	3	1 to 3	0
3027310	Diagnosis What is the doctor looking for, is it performed in conjunction with any other exams, and what are some differential diagnoses?	32	3	1 to 3	0
3027311	Procedure List the steps to complete this exam and room prep/additional supplies required. List dressing	32	3	1 to 3	0
3027312	Post-Procedure What needs to be documented in PIR system, what are discharge instructions, and are there any special considerations post-procedure?	32	3	1 to 3	0
3027313	Image Review Select 2 images from exam and discuss; all anatomy demonstrated and diagnostic? Any rotation/tilt/part angulation? Technical factors and correlating EI?	32	2.88	1 to 3	0.42
Question ID	Question		Mean		STD
3027315	Total Points		9.88		0.42
3027316	Percentage		98.75		4.21