

UNIVERSITY OF WESTERN STATES

2900 NE 132nd Avenue

Portland, Oregon 97230



FY18 YEAR-END CLINICAL SKILLS ASSESSMENT OUTCOMES REPORT

July 2017 – June 2018

October 23, 2018

CLINICAL SKILLS ASSESSMENT PROGRAM OVERVIEW

The purpose of the clinical skills assessment (CSA) program is to evaluate competency in students' clinical skills as they progress through the doctor of chiropractic program (DCP) curriculum. This series of four assessments occur during the first three quarters of the DCP clinical internship. CSA outcomes are utilized not only as indicators of each intern's current competency, but also serve as eligibility thresholds for various clinical internship opportunities. Three unsatisfactory outcomes on any CSA exam results in the student's academic dismissal from the DCP.

Table 1 indicates the CSA schedule and is followed by a brief overview of each exam.

Table 1: Assessments and Quarters Administered

Quarter	Clinical Skills Assessment
8	Clinic Entrance Assessment
9 (early)	Written
9 (late)	Practical
10	Radiology

- Clinic Entrance Assessment (CEA):** is administered to interns at the beginning of their enrollment in CLI 7210 Clinical Internship I. The CEA affords the supervising clinicians the opportunity to evaluate their interns' clinical skills, identify interns' individual strengths and weaknesses, and determine interns' readiness to engage in patient care.
- Written:** this two-hour written exam assesses clinical knowledge and clinical reasoning skills and draws from all Q1-Q8 coursework. The written CSA utilizes multiple-choice, fill-in-the-blank, matching and short-answer questions.
- Practical:** consists of 16, six-minute, graded stations similar in format to NBCE Part IV. Eight stations are patient encounters in which students perform focused history and/or physical examinations on a standardized patient. Immediately following each patient encounter is a post-encounter probe (PEP). At the PEP, the student is presented additional clinical information such as additional history/physical findings and/or diagnostic study results. Students answer written questions based on the simulated case in the previous patient encounter and in consideration of the additional clinical information provided in the PEP.
- Radiology:** consists of 10, five-minute cases during which students employ critical thinking to demonstrate their knowledge of radiographic anatomy, radiographic technique, and radiographic pathology for case scenarios as presented. This exam is inclusive of all radiology coursework from Q1-Q9. Students are provided case information and answer multiple choice questions about radiographic findings, differential diagnosis, patient management, and radiographic technique. The format of the exam helps prepare students for NBCE Part IV.

A student's unsatisfactory outcome in any CSA exam results in a referral for remediation. Each student who does not achieve a successful outcome on the CEA or practical CSA is referred to the Clinical Skills Enhancement Center (CSEC) for focused remediation with either a faculty member or teaching assistant (TA). Students with an unsatisfactory outcome on the radiology CSA exam are referred to CSEC for remediation with radiology faculty. The remediation consists of a lecture presentation provided by the faculty member which remains available on Panopto. In addition, a one-on-one session is scheduled to review the specific subsections in which the examinee performed poorly. Each student who does not achieve a successful outcome on the written CSA exam is scheduled for remediation sessions with four different faculty members to review the various topics covered on that exam. Following completion of the remediation process, the student retakes the exam at the next offering.

PURPOSE OF THIS REPORT

As part of the institution's continuous improvement process, administrators and faculty should utilize this report to review CSA outcomes and incorporate them into plans for DCP improvement. This report provides an aggregate summary of student performance on the CSA exams from SU-17 through SP-18 (7/1/17 – 6/30/18) and includes comparison data from the previous fiscal year(s).

Clinic Entrance Assessment (CEA)

The CEA is a formal assessment of students' clinical skills as they begin the clinical internship course series in Q8. The CEA affords supervising clinicians an opportunity to observe their assigned interns performing a focused assessment on a standardized patient. Rubrics are utilized to evaluate the following clinical skills and to determine each intern's readiness to engage in patient care:

- Obtain a focused history
- Identify appropriate differential diagnoses and follow-up exam procedures
- Perform basic orthopedic, soft tissue and biomechanical examinations
- Interpret and communicate exam findings
- Identify appropriate management procedures
- Demonstrate effective and professional communication

Following this assessment, clinicians discuss with each intern their individual strengths and weaknesses, and identify areas in which to focus improvement.

Actions Taken as a Result of FY17 CSA Annual Outcome Report

- Continued faculty review and revision of new and existing CEA cases.
- Clinical faculty worked with CSA staff to create two new cases that focus on common, uncomplicated conditions interns are likely to encounter. Exam procedures continue to be case-based and those that interns commonly perform incorrectly.
- Discussion between associate dean for clinical internship (ADCI), clinical faculty, and CSA staff determined that the grading system would remain the current -/✓/+ system rather than transitioning to a grading rubric utilizing points. Clinical faculty stated that the current system provided an accurate method for them to assess their interns' performance.

CEA - Outcomes and Discussion

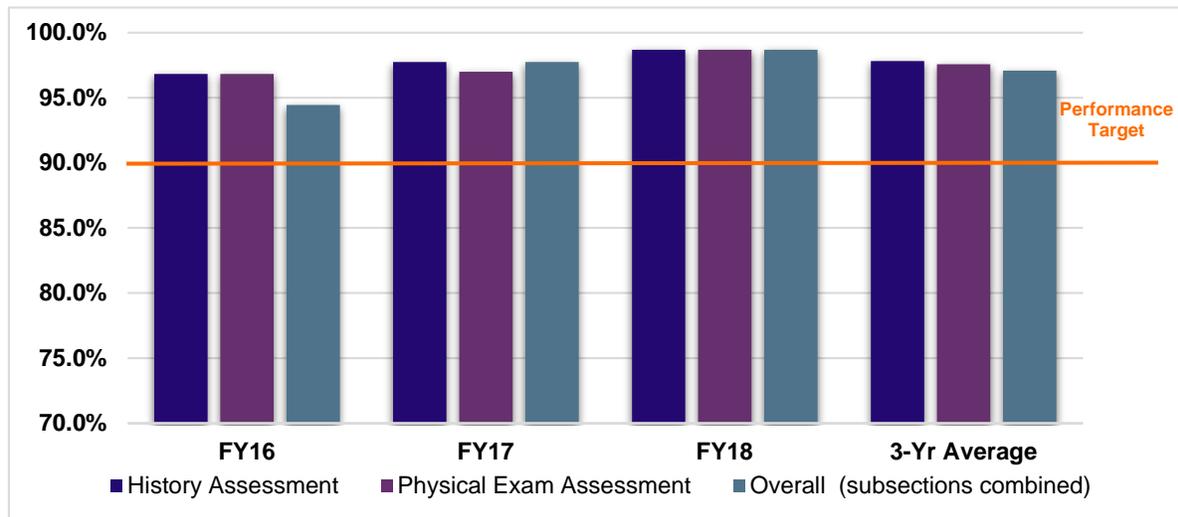
Table 2 displays CEA pass rate outcomes itemized by cohort and exam subsection. The target first-time overall pass rate is 90 percent. Each cohort outcome and the aggregated FY18 total exceeds the target pass rate threshold in this evaluation cycle. One of the two students who did not achieve a satisfactory outcome in FY18 received focused remediation through CSEC. Following CSEC engagement, the intern passed the CEA on retest and was approved to begin engaging in patient care by mid-term. The second intern did not receive formal remediation through CSEC. Instead the clinician and ADCI decided to conduct the remediation in the CHC. This student was not retested. He was permitted to engage in patient care at the discretion of his clinician and ADCI. Clinical faculty have been reminded that the protocol for a clear fail on a CEA is to remediate all interns through CSEC and then provide them with a formal retest. Areas of potential improvement, as indicated by borderline pass results on the CEA, continue to include asking follow-up questions to chronology and associated symptoms, correctly performing orthopedic tests and range of motion, and asking location of pain when orthopedic tests generate a positive response.

Table 2: CEA FY18 Outcomes by Cohort and Exam Subsection

Clinic Entrance Assessment	SU-17				FA-17				WI-18				FY18 Totals	
	# Fail	# Borderline Pass	# Outright Pass	% Total Pass	# Fail	# Borderline Pass	# Outright Pass	% Total Pass	# Fail	# Borderline Pass	# Outright Pass	% Total Pass	# Total Pass	% Total Pass
# of first-time examinees	55				62				35				152	
History Assessment	0	1	54	100%	1	9	52	100%	1	5	29	97%	150	98.7%
Physical Exam Assessment	0	3	52	100%	1	3	58	98%	1	2	32	97%	150	98.7%
Overall (subsections combined)	0	3	52	100%	1	10	51	98%	1	2	32	97%	150	98.7%

As seen in Figure 1 below, the aggregated FY18 totals increased slightly from the previous year for the history assessment, physical exam assessment and overall total. The annual pass rate outcomes for each evaluation cycle exceeded the target threshold of 90%.

Figure 1: Annual CEA Outcomes



CEA – Recommendations

The following two recommendations have been derived from the present analysis. CSA staff will work with the dean of the chiropractic program and ADCI to prioritize and implement action steps for the next year.

1. Create one additional exam case with input from clinical faculty and assessment staff. This will provide ample versions of the exam when make-up exams and/or retests are required. Continue to focus on common, uncomplicated conditions interns are likely to encounter and include, when possible, exam procedures commonly performed incorrectly.
2. Explore the option of including a partial credit option to the grading rubric. This was requested by clinical faculty during the last evaluation cycle as a way to offer points to a student who performed an orthopedic procedure correctly; however, did not perform the test bilaterally. Partial credit is offered on the practical CSA grading rubrics. This change would allow for a more standardized format to the CSA grading rubrics.

Practical CSA

The practical CSA models NBCE Part IV by including robust assessment of clinical thinking skills with intentional focus on diagnosis and management of specific conditions. The exam consists of 16 stations and includes three types of assessment:

- *Chiropractic Technique Station (1)*: Students have six minutes in which to demonstrate patient placement, doctor placement, hand placement, vector and line of drive for both spinal and extra-spinal adjustments. No thrust is applied.
- *Patient Encounter Stations (7)*: For each patient encounter, students have six minutes in which to perform either a focused history and/or physical examination on a standardized patient. These stations assess students' competency in:
 - Focused case history taking
 - General physical exam procedures
 - Spinal / extremity orthopedics
 - Neurological evaluation
 - Communication skills / professionalism
- *Post-encounter Probe Stations (8)*: Immediately following each patient encounter or chiropractic technique station is a post-encounter probe (PEP). At the PEP station, the student is presented with additional clinical information such as additional history/physical findings and/or diagnostic study results. Students answer written questions based on their interaction with the standardized patient in the previous station and in consideration of the additional clinical information provided. The PEP station following the chiropractic technique station is a standalone wellness case management station. Students are provided with corresponding history/physical findings and/or diagnostic study results in which to make case management recommendations. PEP questions may be multiple choice, fill-in-the-blank, matching or short answer and focus on the following:
 - Appropriate follow-up procedures / referrals
 - Most likely diagnosis / diagnoses
 - Appropriate case management decisions, including active care, passive care, nutrition / dietary recommendations, etc.

Actions Taken as a Result of FY17 CSA Annual Outcome Report

The grading structure of the PEP stations requiring students to identify three correct responses and seven incorrect responses was revised to eliminate the possibility that students may pass the station simply by employing a test taking strategy identified in the FY17 CSA report. This revision involved increasing the point value for the correct responses (2 points) while maintaining the point value for incorrect responses (1 point). With the new grading structure, the maximum score that could be achieved by students employing this test taking strategy is 54% as opposed to 70% in the old grading structure. This change was implemented in FA-17. CSA staff and the administration acknowledge that changes in the pass rate of first-time test takers is likely to decline as it is expected that some students will continue to employ the test taking strategy. It is predicted that by the end of FY18 students will realize that is not an acceptable technique.

Practical CSA – Outcomes and Discussion

Figure 2 below presents annual aggregated first-time pass rates for the Practical CSA over the past four years. The first-time pass rate in each of the four most recent years exceeds the target of 80%. Students continue to demonstrate competency in the performance of clinical skills and clinical thinking. There was a decline in the overall pass rate in FY18 which may be attributed to the implementation of the new grading structure for PEP stations.

Figure 2: Practical CSA Annual First-time Pass Rate

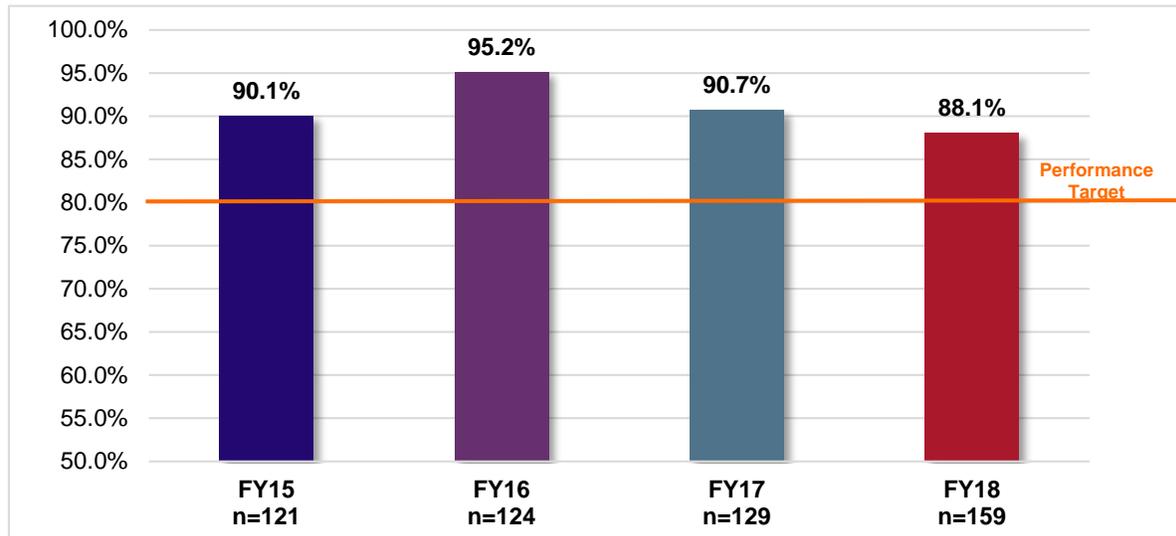


Table 3: Practical CSA Cohort Outcomes by Assessment Focus and Case Type

Cohort Outcomes Practical Exam		SU-17		FA-17		WI-18		SP-18		FY18 Totals		
# of first-time examinees		2		58		63		36		159		
# of first-time pass		2		48		55		35		140		
Overall Pass Rate (all stations combined)		100.0%		82.8%		87.3%		97.2%		88.1%		
Case Type	Assessment Focus	# Pass	%	# Pass	%	# Pass	%	# Pass	%	# Pass	%	
History Taking	Chief Complaint (NMS)	Patient Encounter	0	0.0%	55	94.8%	57	90.5%	36	100.0%	148	93.1%
		PEP	2	100.0%	54	93.1%	48	76.2%	29	80.6%	133	83.6%
	Chief Complaint (non-NMS)	Patient Encounter	2	100.0%	52	89.7%	61	96.8%	35	97.2%	150	94.3%
		PEP	2	100.0%	42	72.4%	38	60.3%	33	91.7%	115	72.3%
Past Health or Personal	Patient Encounter	2	100.0%	41	70.7%	58	92.1%	23	63.9%	124	78.0%	
	PEP	1	50.0%	23	39.7%	61	96.8%	17	47.2%	102	64.2%	
Physical Examination	Neuro	Patient Encounter	1	50.0%	54	93.1%	51	81.0%	33	91.7%	139	87.4%
		PEP	2	100.0%	38	65.5%	24	38.1%	32	88.9%	96	60.4%
	Spine Ortho	Patient Encounter	1	50.0%	56	96.6%	37	58.7%	32	88.9%	126	79.2%
		PEP	2	100.0%	34	58.6%	44	69.8%	35	97.2%	115	72.3%
	Extremity Ortho	Patient Encounter	1	50.0%	50	86.2%	61	96.8%	9	25.0%	121	76.1%
		PEP	2	100.0%	50	86.2%	40	63.5%	36	100.0%	128	80.5%
	General	Patient Encounter	2	100.0%	53	91.4%	61	96.8%	34	94.4%	150	94.3%
		PEP	1	50.0%	52	89.7%	44	69.8%	30	83.3%	127	79.9%
Chiro. Technique	Spine / Extremity	2	100.0%	47	81.0%	59	93.7%	35	97.2%	143	89.9%	
Wellness	Dx / Case Management	2	100.0%	49	84.5%	56	88.9%	33	91.7%	140	88.1%	

Table 3 above presents outcomes for each cohort broken out by station type (patient encounter or PEP) and by the clinical skills focus of each station (history taking, physical examination, chiropractic technique or wellness). Annual first-time pass rate outcomes below 80 percent in each case type are indicated in **red text** and identify potential areas for curricular, instructional and/or internship improvement.

There was poor performance on several PEP stations in this evaluation cycle. As previously mentioned, this is likely a result of the revised grading structure of the PEP stations. CSA staff continued to examine the answer patterns and identified several students in the FA-17 and WI-18 cohorts who appeared to have utilized this test-taking strategy. In fact, students in the SP-18 cohort informed CSA staff privately and during the pre-exam sequestration that they were instructed by other students to employ the test taking strategy. CSA staff advised students to follow all posted instructions at each station.

The neurological examination PEP failed to meet the performance target, which is consistent with outcomes from previous years. Examinees specifically struggle with cases in which the patient presents with neurologic symptoms in the absence of objective deficits. Despite all neurological findings being within normal limits, examinees frequently incorrectly diagnose a radiculopathy. This misdiagnosis leads to inappropriate choices in management. The result is consistent with performance trends noted on previous practical CSA exams. Additionally, students struggle with differentiating between cervical radiculopathy and thoracic outlet syndrome (TOS). Many students incorrectly diagnose TOS despite the lack of positive orthopedic tests.

The past health or personal history taking case type also failed to meet the outcome threshold. Both cohorts failing to reach the target pass rate performed a past health history. During the pre-examination instructions for the SP-18 cohort, it was discovered that many students did not have a clear understanding of what was included in each component of the history. For example, students told CSA staff that components of a past health history were included with the family health history. Following the exam, CSA staff confirmed with faculty responsible for teaching history taking that those two history components were not combined. A particular area of weakness identified with the history taking case types is not asking appropriate follow-up questions, such as results of physical exam procedures or why a patient may have had diagnostic imaging. Failing to ask pertinent questions in the history could contribute to poor performance in the PEP station.

The spine orthopedic case type did not meet the outcome threshold for both the patient encounter and the PEP. Examinees in the WI-18 cohort performed poorly in the patient encounter by incorrectly performing exam procedures (such as Kemp's Test) and/or failing to perform the procedures bilaterally. This could contribute to an inability to select the correct diagnosis and management and account for the poor performance in the PEP station. The FA-17 cohort also failed to meet the outcome threshold for the corresponding spine orthopedic PEP station. This cohort was previously identified as employing the test taking strategy for this station type, likely contributing to the low pass rate.

Another case type not meeting the performance target is the extremity orthopedic patient encounter. In each practical CSA exam, the content for this case type alternates between the upper and lower extremity. In FY18 the SP-18 cohort demonstrated difficulty performing the wrist fracture screen. Many students did not perform the fracture test and five students received an automatic fail for performing torsion of the wrist before performing any other portion of that screen. This is consistent with previous performance of this case.

Figure 3: Practical CSA Cohort Outcomes by Station Type

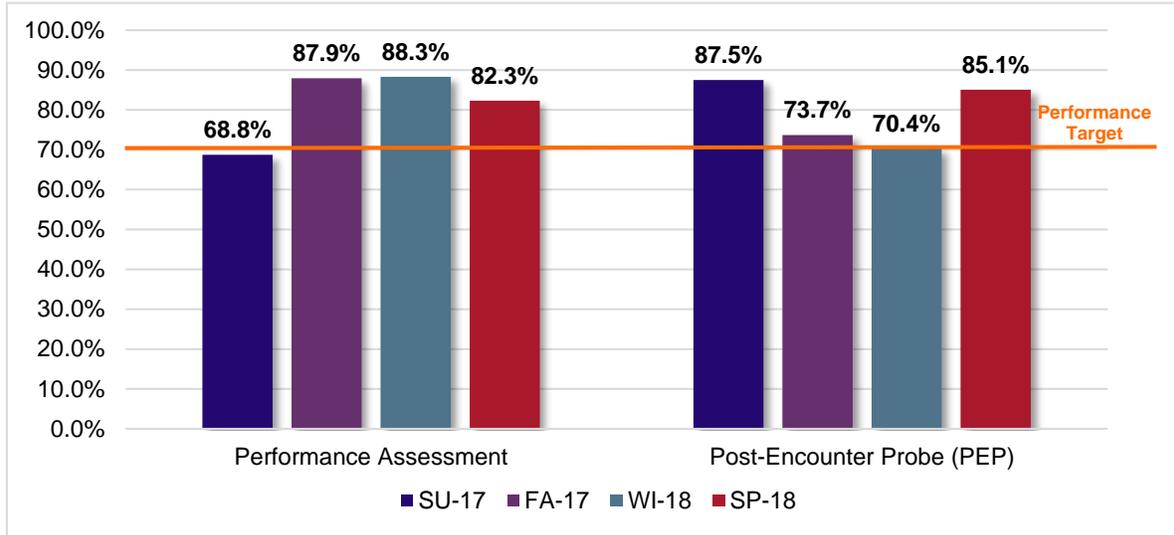


Figure 3 above shows results for each cohort comparing performance station and PEP station aggregate outcomes. The overall pass rate for the performance based station types was higher than that for the PEP stations. As previously mentioned, the revised grading structure for the PEP stations took effect in FA-17. As a result, there were a higher than normal number of overall failed exams seen in FA-17 and WI-18 where students were identified as employing the test taking strategy with both cohorts failing to achieve the pass rate threshold (80%) for the PEP stations. This seemed to level off in SP-18. As seen in Figure 4 below, the FY18 PEP totals failed to meet the pass rate threshold. Additionally, there was a decline in the FY18 PEP pass rate as compared to FY17.

Figure 4: Practical CSA Annual First-time Pass Rate by Assessment Type

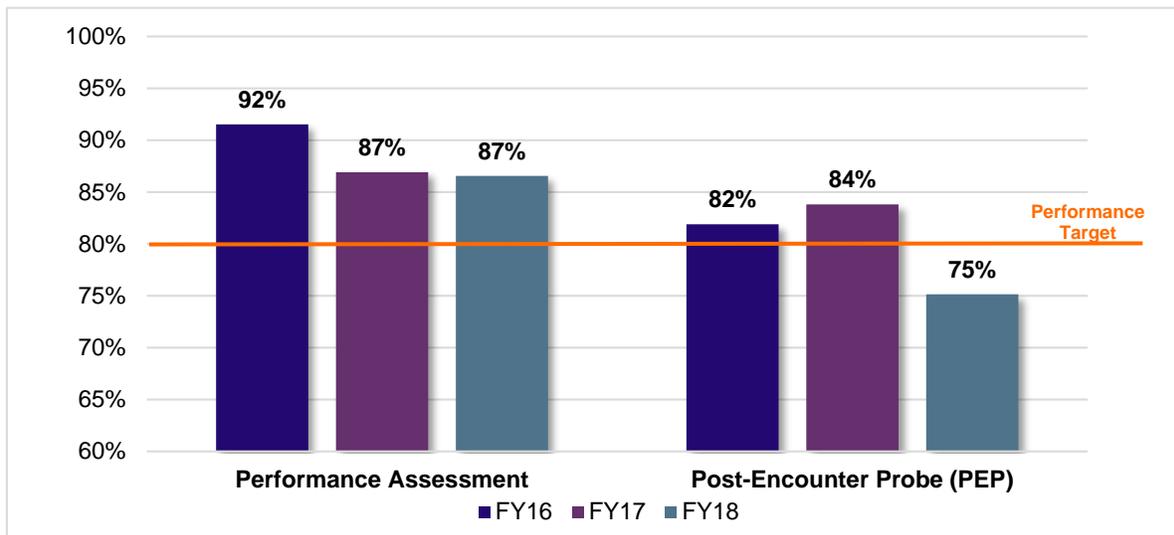


Figure 5: Annual Practical CSA First-time Pass Rate by Objective

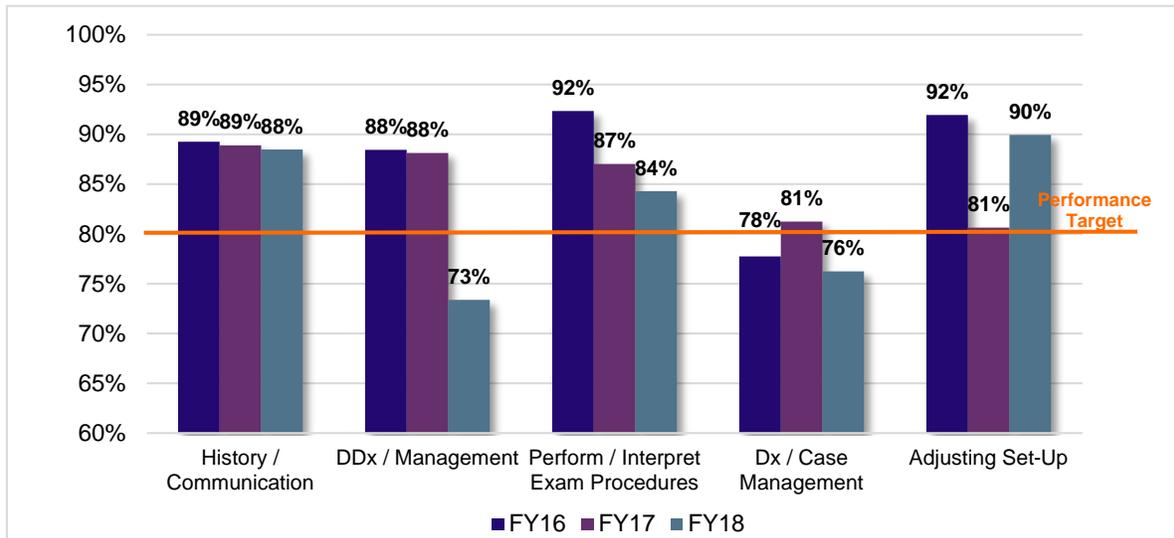


Figure 5 above shows that the most significant decline in performance in FY18 was the DDx / Management PEP followed by Dx / Case Management PEP stations, a result of the change in the PEP station grading structure. There was also a fall in performance observed in Perform / Interpret Exam Procedures. There were not any identifiable trends to account for that decline. There was a significant improvement in Adjusting Set-up performance in FY18.

Figure 6: FY18 Practical CSA Cohort First-time Pass Rate by Diagnosis Type

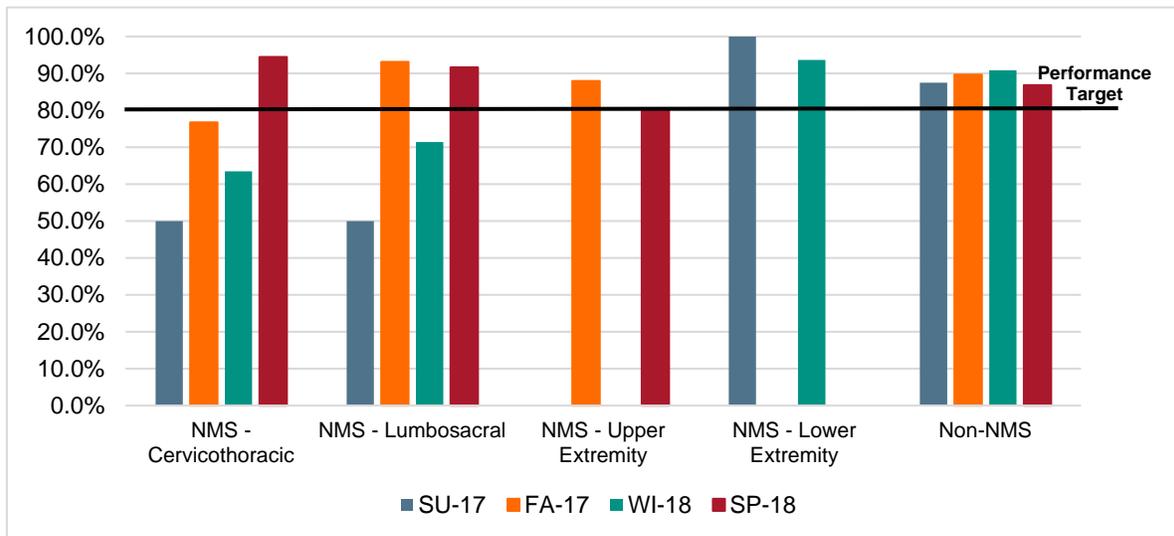


Figure 6 above presents FY18 cohort performance as it relates to the diagnosis for each case. Note that only one case with an extremity neuromusculoskeletal diagnosis was offered in each cohort. Non-NMS cases include diagnoses organic in nature, such as diabetes, sinusitis, kidney stones, bronchitis, hypothyroidism, and throat pain.

Figure 7: Annual Practical CSA First-time Pass Rate by Diagnosis Type

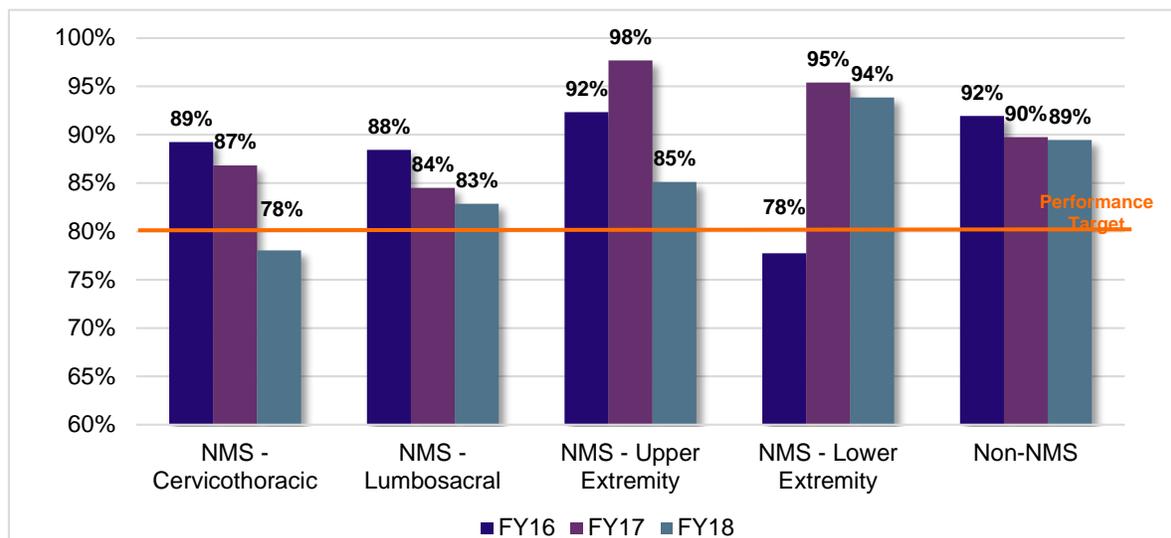


Figure 7 above shows the first-time pass rate by diagnosis type over the last three fiscal years. The NMS-cervicothoracic diagnosis type is the only one that failed to reach the target pass rate in FY18. There was a 9% decline in performance in that diagnosis type compared with FY17. There was a 13% decline in performance of the NMS-upper extremity diagnosis type in FY18 from FY17. There were not any identifiable trends to account for this performance.

Practical CSA – Recommendations

The following seven recommendations have been derived from the present analysis. CSA staff will work with the dean of the chiropractic program, ADCI and faculty to prioritize and implement action steps for the next year.

1. Embed the practical CSA exam with CLI 7307, Clinical Internship II rather than have this be a standalone exam. This change would attach this exam to a course with course goals and student learning objectives and would satisfy requirements imposed by our accreditors.
2. Work with the ADCI and clinical faculty to determine if more treatment based patient encounter stations should be added to this exam.
3. Replace short answer style questions with multiple choice questions. Where short answer questions challenge students' critical thinking more than multiple choice questions, it is difficult to extract data on the performance of those questions.
4. Aim to increase the number of questions in NBCE Part IV format.
5. Continue faculty work groups to review exam content. The eMedley item analysis will continue to be used to evaluate question performance in the PEP stations. Student response, as indicated on the item analysis, helps faculty determine when to replace a distractor or add clinical information to the PEP station. Data extracted from the item analysis will also be used to help redistribute the cases to ensure there is a consistent degree of difficulty with each version of the exam.
6. With the larger numbers of students in each cohort it may not be sustainable to hold this exam on one day. Planning for a two-day exam will commence in FA-18. It will include the creation of additional cases so there are separate versions of the exam that will be offered in a given term. Staffing of a second day is a consideration. Facilities would also need to be consulted as other buildings would need to be available for pre/post-exam sequestering.

- Incorporate history taking and case specific questions into neuromusculoskeletal and physical assessment labs.

Written CSA

The written CSA has been administered via ExamN since SP-16. The electronic administration of this exam was introduced in FA-17. Not only is the electronic administration of this exam less cumbersome to students and more environmentally sensitive, it eases some of the burden of the grading process. All paper bubble sheets need to be scanned and uploaded in ExamN. This is a tedious and time consuming task. Since the introduction of the electronic version of the exam, CSA staff spends significantly less time scanning and uploading bubble sheets. Students not meeting the iPad requirement who were required to retake the written CSA in FY18 were provided a paper test. ExamN paper tests are printed with an individualized corresponding answer sheet inclusive of bubbles for multiple choice questions and answer boxes for short answer responses. Short answer questions are grouped together to minimize the need to flip back and forth between answer sheets.

Actions Taken as a Result of FY17 CSA Annual Outcome Report

- Exam questions pertaining to radiology coursework were reviewed by radiology faculty prior to each exam for accuracy. Improvements and/or corrections were made to questions in need. This led to a better test taking experience for students and reduced the need for post-exam review by faculty. This also ensured content was in alignment with course learning outcomes.
- Faculty involvement pre and post exam improved. Upon faculty pre-exam review, weak or poorly worded questions were sent to the appropriate department for correction. Questions with poor performance identified on the Item Analysis were sent to the appropriate faculty. Faculty offered either a question revision or a new question.
- Gradually incorporated new questions and monitored performance of those questions.

Written CSA – Outcomes and Discussion

To pass the written CSA students must earn 70 percent or more of total points. The target first-time pass rate is 80 percent. First-time pass rates below 80 percent are indicated in **red text** to identify potential areas for curricular, instructional, and/or internship improvement. Table 4 below shows overall cohort performance, as well as pass-rates by topic subsection.

Table 4: FY18 Written CSA Cohort Outcomes and Subsection Pass Rate

Cohort Outcomes Written Exam	SU-17		FA-17		WI-18		SP-18		FY18 Totals	
# of first-time Examinees	1		59		61		38		159	
# of first-time pass	1		48		54		35		138	
Overall Pass Rate* (all subsections combined)	100.0%		81.4%		88.5%		92.1%		86.8%	
Subsection Pass Rate**	# Pass	%	# Pass	%	# Pass	%	# Pass	%	# Pass	%
History / DDX	1	100%	57	96.6%	56	91.8%	33	86.8%	147	92.5%
Physical Exam	1	100%	58	98.3%	59	96.7%	37	97.4%	155	97.5%
Clinical Lab Interpretation	1	100%	21	35.6%	53	86.9%	36	94.7%	111	69.8%
Imaging / Special Studies	1	100%	48	81.4%	33	54.1%	32	84.2%	114	71.7%
Diagnosis / Problems list	0	0.0%	59	100%	51	83.6%	36	94.7%	146	91.8%
Case Management	1	100%	58	98.3%	59	96.7%	37	97.4%	155	97.5%

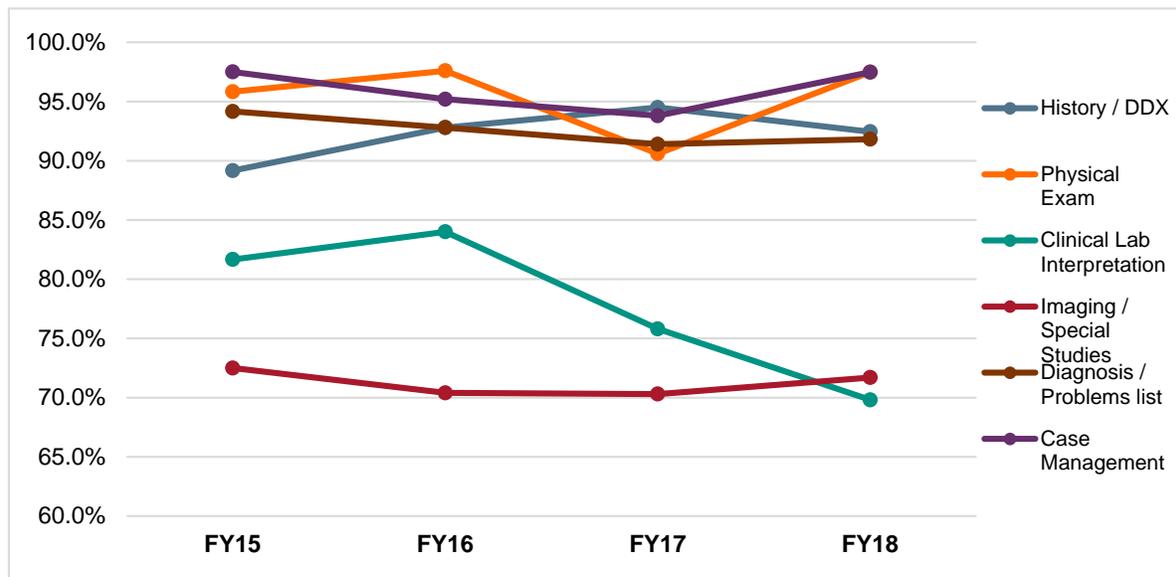
*Student must achieve 70% or more of total exam points to pass the exam.

**Student must correctly answer 60% or more of questions in the subsection to pass the subsection.

As indicated in Table 4 above, examinees continue to perform below the pass rate threshold on subsection questions related to imaging/special studies. It is unclear why examinees consistently score low on this topic. Although there was a slight improvement from the FY17 totals, performance in this subcategory has remained consistent.

The clinical lab interpretation subsection fell below the target pass rate outcome. As seen in *Figure 8* below, this was a decrease from what was seen in FY17. All cohorts, with the exception of FA-17, did very well in this subcategory despite the overall FY totals. The poor performance of the FA-17 cohort was significant enough to reduce the overall annual total to below the target pass rate. It is uncertain what the cause is for the drop in performance. There has been a noticeable decline in performance of this subcategory over the last two fiscal years.

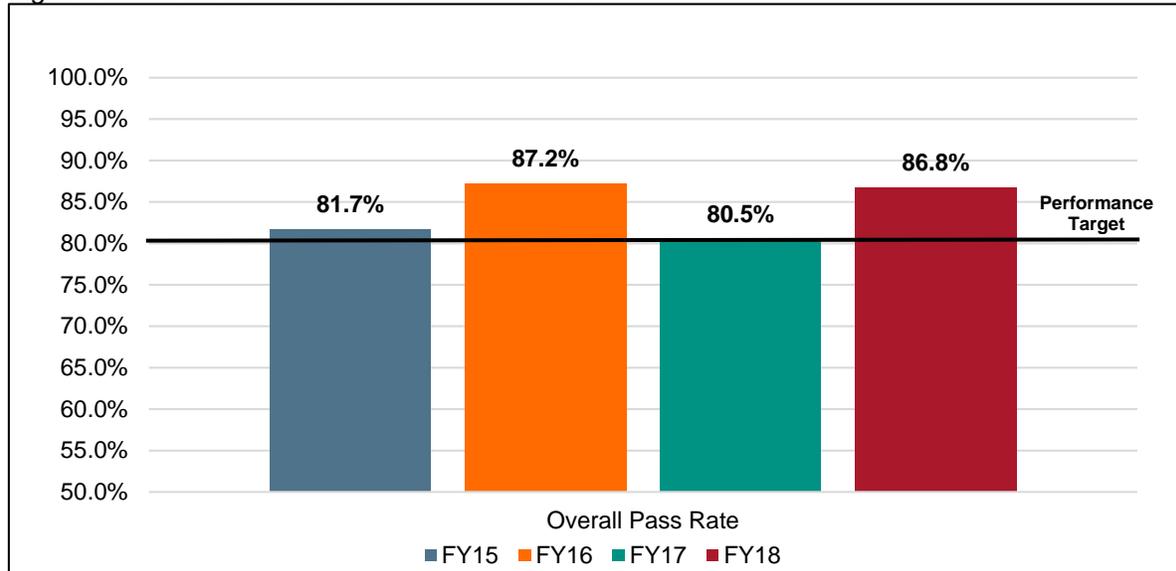
Figure 8: Written CSA First-time Pass Rate by Subsection



There was an upward trend in performance in FY18 for the subcategories of physical exam and case management. Students tend to perform well in those topics, and there was little difference in performance among each cohort.

Figure 9 below presents the annual first-time pass rates for the past four fiscal years. The target pass rate outcome has been met or exceeded in each of the past four years. Efforts continue to improve exam content.

Figure 9: Written CSA Annual First-time Pass Rate



Written CSA – Recommendations

The administration has determined that this exam must be attached to a course with corresponding instruction, including course goals and learning objectives instead of being a free standing exam. Due to the comprehensive subject matter included in this exam, identifying an appropriate class has proved challenging. The dean of the DCP, working with the curriculum committee, faculty chairs, and assessment staff has determined the best solution would be to develop a free, robust online NBCE Part III review course. The course will be housed on webCampus and will contain resources for students to access to help them prepare for this exam. A committee of faculty members will be formed and charged with monitoring course content and development of practice exams in NBCE Part III format. These exams will be made available online and students will receive feedback on their performance which will help to focus their studies.

Radiology CSA

This exam consists of 10, five-minute cases during which examinees employ critical thinking to demonstrate their knowledge of radiographic anatomy, radiographic technique, and radiographic pathology for case scenarios modeled after NBCE Part IV.

Actions Taken as a Result of FY17 CSA Annual Outcome Report

- Electronic administration of the radiology CSA exam began in WI-18.
- All radiology CSA exams were administered with ExamN in order to evaluate the performance results of each assessment topic for each cohort.

Radiology CSA – Outcomes and Discussion

Examinees must achieve a minimum score of 70 percent to pass the radiology CSA. The target first-time pass rate is 80 percent. First-time pass rates below 80 percent are indicated in red text to identify potential areas for curricular, instructional, and/or internship improvement.

Table 5: FY18 Radiology CSA Cohort Outcomes

Cohort Outcomes Radiology Exam	SU-17	FA-17	WI-18	SP-18	FY18 Totals
# of first-time Examinees	27	11	58	63	159
# of first-time pass	18	8	45	55	126
Overall Pass Rate	66.7%	72.7%	77.6%	87.3%	79.2%

Table 5 above presents the FY18 cohort first-time pass rates for the radiology CSA. The SP-18 cohort was the only cohort to successfully reach the target pass rate threshold for this exam. Despite the three other cohorts failing to achieve the target pass rate threshold, the overall totals for FY18 were less than 1 percent below the target pass rate threshold of 80 percent for this exam. As seen in *Figure 10* below, this was an increase over FY17 totals. *Figure 10* includes annual first-time pass rates for the radiology CSA over the past five years. Although examinees failed to achieve the target first-time pass rate in FY18, the overall pass rate increased from FY17 and was just below the target threshold.

Figure 10: Radiology CSA Annual First-time Pass Rate

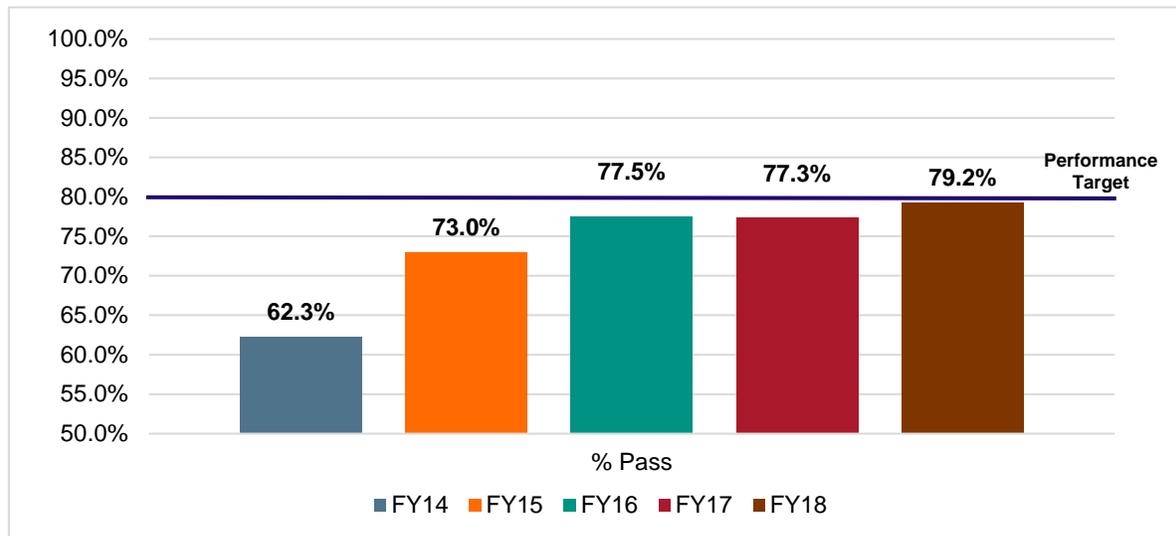


Table 6 below presents performance outcomes for the assessment topics included on the radiology CSA exam. This is the first evaluation cycle in which examN was used for all four cohorts. As a whole, students did not receive a passing score for the majority of assessment topics which is observed across all cohorts, with the exception of SP-18. The FY18 totals show students only achieved the target pass rate for arthritic disorders of the spine, congenital anomalies and skeletal variants, and traumatic skeletal disorders of the spine. Additionally, students essentially met the target pass rate for bone infection and miscellaneous at 79.9%. Four assessment topics were not consistently included on all cohort exams which most likely contributed to the very low pass rates for those subcategories. The SU-17 cohort failed to achieve a passing grade in most of the assessment topics included on that exam and also had the lowest overall pass rate for the exam. The SP-18 cohort had the highest number of passed assessment topics and also achieved the highest overall pass rate for the exam.

Table 6: Radiology Assessment Topic Cohort Outcomes

Assessment Topic	SU-17		FA-17		WI-18		SP-18		FY18 Totals	
	# Pass	%	# Pass	%	# Pass	%	# Pass	%	# Pass	%
Arthritic Disorders (spine)	18	66.7%	8	72.7%	53	91.4%	50	79.4%	129	81.1%
Arthritic Disorders (extremity)	23	85.2%	7	63.6%	42	72.4%	38	60.3%	110	69.2%
Bone Infection & Misc.	24	88.9%	11	100.0%	43	74.1%	49	77.8%	127	79.9%
Congenital Anomalies & Skeletal Variants	22	81.5%	8	72.7%	52	89.7%	56	88.9%	138	86.8%
Hematological & Vascular Conditions							54	85.7%	54	34.0%
Intervertebral Disc Disease & Spinal Stenosis: Pt. Mgmt.							55	87.3%	55	34.6%
Spondylosis & Spondylolisthesis: Clinical Correlation	15	55.6%					46	73.0%	61	38.4%
Traumatic Skeletal Disorders (spine): Clinical Correlation	14	51.9%	10	90.9%	45	77.6%	62	98.4%	131	82.4%
Traumatic Skeletal Disorders (extremity): Clinical Correlation	20	74.1%	11	100.0%	34	58.6%			65	40.9%
Tumors & Tumor-like Processes: Rad. Findings	17	63.0%	8	72.7%	38	65.5%	60	95.2%	123	77.4%
Technique	11	40.7%	7	63.6%	13	22.4%	60	95.2%	91	57.2%

Radiology CSA - Recommendations

After several years of failing to achieve the performance target for this exam, DCP administration has decided to restructure the radiology CSA. Like the written CSA, the decision was made to embed this exam within a course, with corresponding instruction, course goals and student learning objectives. Radiology faculty met with the dean of the DCP and determined that the exam content was compatible with what is currently taught in Bone Pathology I and Bone Pathology II. Faculty indicate it would be easy to create a final exam similar in style to the current radiology CSA exam for each course in the Bone Pathology (I-IV) series. This change will provide students with four opportunities to practice this type of exam to help prepare them for NBCE Part IV.

The following recommendations will be made to the radiology faculty for the inclusion of this exam into their courses.

1. The final exam for all four Bone Pathology courses will include cases consistent with NBCE Part IV format.
2. Change the question format to align more closely with NBCE Part IV

Planned Clinical Assessment Changes

- As of FA-18, the practical CSA exam will no longer be a graduation requirement and subject to academic dismissal if not passed on the third attempt.
- The practical CSA will be added to CLI 7307, Clinical Internship II.
- Beginning FA-18, the radiology and written CSA exams will no longer exist in their current format.
- The radiology CSA exam will become the final exam for the Bone Pathology courses.
- The written CSA exam will be replaced with a robust NBCE Part III review conducted by faculty.