

# Report of Findings from the 2006 Ophthalmic Photographers Society-Optical Coherence Tomography Job Analysis

## Background of Study

The Ophthalmic Photographers Society (OPS) currently assesses entry-level practice for Certified Retinal Angiographers. In the past, OPS has not attempted to develop a description of entry-level Optical Coherence Tomography (OCT) Imager practice. The OCT technology, skills and knowledge base, is different from retinal angiography, and may warrant an independent certification program. According to the 2004 Job Analysis for Retinal Angiographers, OCT has become a part of the role of retinal angiographers. In a 2003 survey exploring the role of ophthalmic photographers, OCT is the third most common skill (at 60% performing the task, and 40% performing it routinely) performed by ophthalmic photographers.

This study is intended to describe entry-level OCT Imaging practice with the intention of determining if there is a core set of competencies for OCT Imagers regardless of practice setting, specialty practice and years of experience. In order to ensure the validity of the Job Analysis results, a number of preparatory steps were taken. A job analysis should address those competencies that are needed by the professional to practice safely and effectively in order to protect the public<sup>1</sup>. According to professional standards, the Job Analysis should address the importance and frequency with which activities are performed.<sup>2</sup>

*The Joint Standards for Educational and Psychological Testing (AERA, APA, and NCME, 1999) state:*

### Standard 14.10

When evidence of validity on test content is presented, the rationale for defining and describing a specific job content domain in a particular way (e.g., tasks, knowledge, skills, abilities or other personal characteristics) should be stated clearly.

### Standard 14.14

The content domain to be covered by a credentialing test should be defined clearly and justified in terms of importance of the content for the credential-worthy performance in an occupation or profession. A rationale should be provided to support a claim that the knowledge or skills being assessed are required for credential-worthy performance in an occupation and are consistent with the purpose for which the licensing or certification program was instituted.

**Content development.** The OPS Board of Certification (BOC) appointed an OCT Test Development Committee to research and organize the content for an OCT Certification Program. The Committee was comprised of individuals in the field of OCT Imaging representative of the diversity of practice, experience, location, education, and backgrounds. The Committee Members' Curriculum Vitae can be found in Appendix A.

To establish the study, a comprehensive literature search was initiated. Periodicals, federal and international rules and regulations, approved texts, OPS BOC policy and bylaws, and OPS BOC published research were all used to develop an exhaustive list of the skills required of competent practice. The list was presented to a panel of Subject Matter Experts (SMEs) for review and approval and a rating scale was adopted providing a mechanism for measuring task importance and frequency of practice.

**Survey Development.** The BOC, with the assistance of a Committee of Subject Matter Experts, developed a comprehensive survey to analyze the tasks and knowledge required for competent practice as an OCT Imager. Included in the survey was a demographic questionnaire designed to gather confidential data describing the survey respondents. The task list was then converted into a web-based survey questionnaire.

A draft version of the survey was sent to 15 volunteer OCT users. Minor edits were incorporated based upon respondent feedback, and the survey was finalized. A copy of the survey instrument can be found in Appendix B

**Mailing.** The BOC released the questionnaire in the form of a Web survey to the OPS Members List (731 active email addresses) and OPTIMAL (390 subscribers, 139 of whom are also on the OPS members' email list, 251 are not) in January of 2006. One vendor forwarded email announcements to their user lists; however, did not forward to the BOC the number of announcements sent. The BOC sent postcards to all OPS members and OPS educational program attendees (1,000 postcards, 731 of whom are also on the OPS members' email list) in February of 2006, and invited OCT vendors to request postcards to mail to a random selection of their OCT user lists (1,000 postcards). In total, the BOC mailed 2,000 postcard invitations.

**Return Rates.** A total of 355 participants responded to the online survey, however 27 failed to complete the rating section of the instrument and therefore were not included in the final data set. This resulted in a 16.4% return rate of analyzable surveys.

**Scale and Respondent Reliability Estimates.** Two reliability estimates were calculated to evaluate the amount of error associated with the survey as well as the agreement among the respondents. These calculations provided a measure of the internal consistency of the survey. To evaluate the instrument, a statistic known as coefficient alpha (KR20) was calculated. These estimates are affected by the number of questions and the number of respondents. Higher values (e.g., greater than .90) reflect lower error, with a maximum theoretical value of 1.0. For the total survey the KR20 reliability estimate was about .99, while each of the eight domains had KR20 reliability estimates greater than .80, which suggested limited error.

A second reliability statistic to establish reliability estimates for the respondent group was also calculated. This statistic is known as an intraclass correlation (ANOVA). Each of the domains had reliability estimates greater than .93, for the total survey the KR20 reliability estimate was about .93 as well, indicating reliability. Table 1 outlines these calculations.

Table 1. Reliability Estimates				
Scale	N Items	N Cases*	Scale Reliability (KR20)	Rater Reliability (ANOVA)
I. Patient/Operator Safety	4	321	.8083	0.98
II. Data and Image Management	22	264	.9691	0.98
III. Anterior Chamber OCT	7	299	.8553	0.99
IV. Interpretation of OCT	84	112	.9784	0.98
V. Optical Coherence Tomography (OCT)	30	214	.9667	0.97
VI. Patient Management	8	157	.9733	0.96
VII. Applies the Concepts of Pathology of the Eye to OCT findings	7	198	.9100	0.97
VIII. Applies the Principles of the Anatomy of the Eye	3	310	.9341	0.93
<b>Total Survey</b>	165	54	.9852	0.93

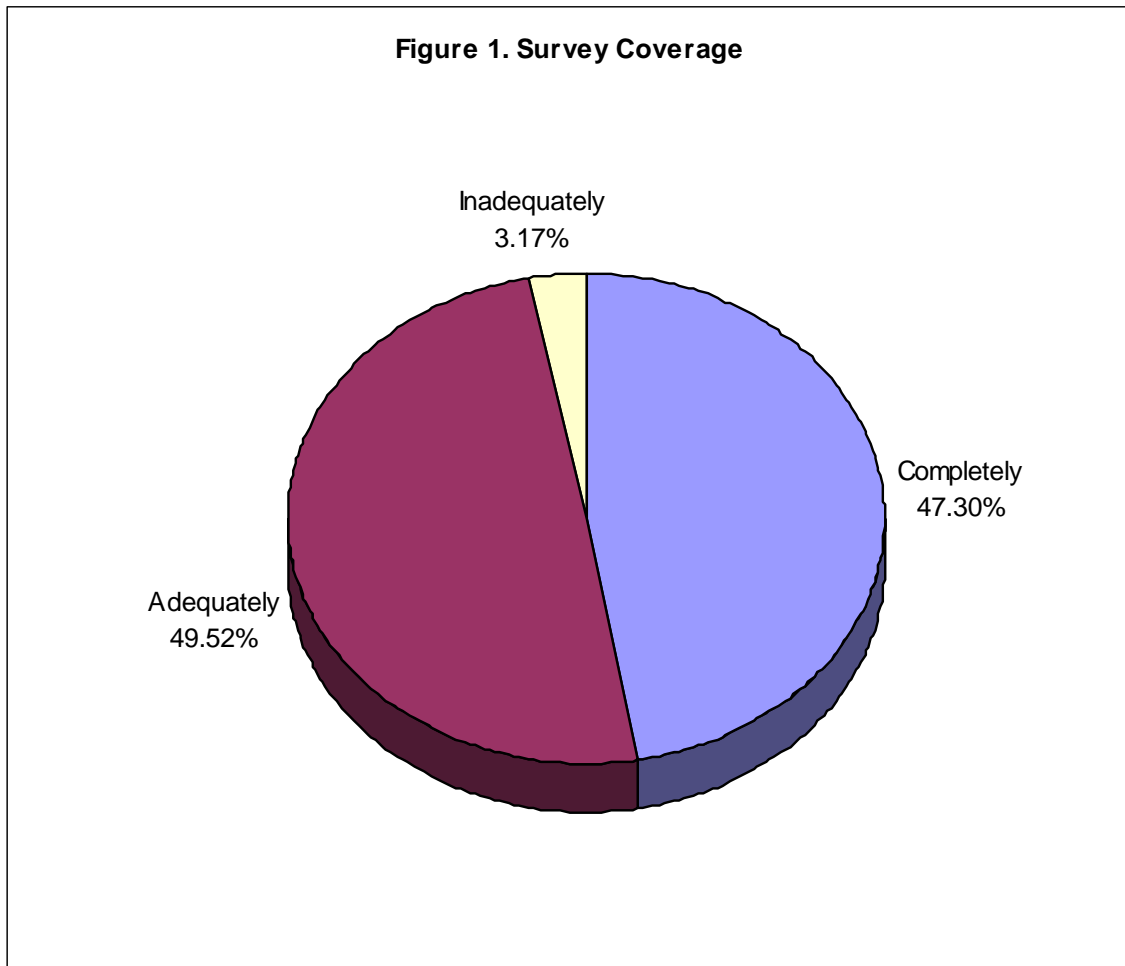
\*For the calculations for each content area, judgments must have been recorded for each intervention within the content area. Fifty-four respondents provided judgments for all 165 interventions on the survey.

**Summary.** A panel of Optical Coherence Tomography Imaging experts with varied backgrounds in practice setting, specialty practice, and years of experience met and created a list of the skills required of competent OCT Imager practice. A total of 2,000 OCT Imagers were selected at random from among a list of OPS Members and secondary sources. An instrument and data collection system was developed to gather the respondent information. A response rate of over 16% of analyzable surveys was obtained. This Job Analysis contains the responses of 328 OCT Imagers.

**Survey Coverage.** In order to gauge how the survey performed, OPS asked the questions listed below. Of the 328 participants, 13 did not answer this question. About 97% of the respondents indicated the survey completely or adequately covered the tasks performed by the competent Optical Coherence Tomographer. Figure 1 presents this data.

*How well do you feel the survey covered the tasks performed by the competent, Optical Coherence Tomographer?*

1	Completely
2	Adequately
3	Inadequately

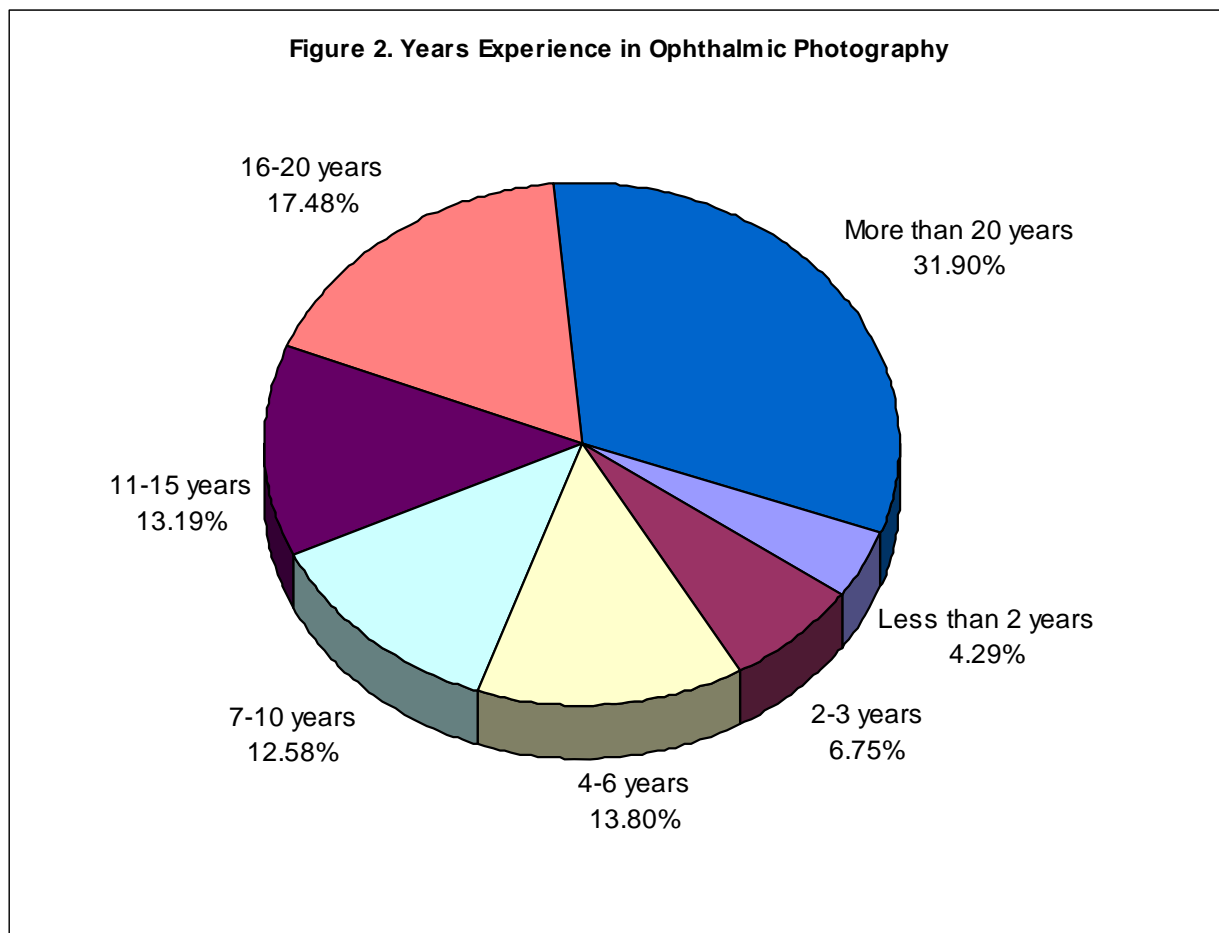


## Demographics, Past Experiences and Practice Environments of Participants

**Years Experience in Ophthalmic Photography.** In order to understand the respondents' years of professional experience in Ophthalmic Photography, OPS asked the question listed below. Of the 328 participants, two did not answer this question. Approximately 49% of the respondents indicated 16 or more years experience in the field, while almost 26% indicated 10-15 years experience in the field. Figure 2 presents the data. Frequency tables can be found in Appendix C.

*Describe your years of professional experience in the field of Ophthalmic Photography:*

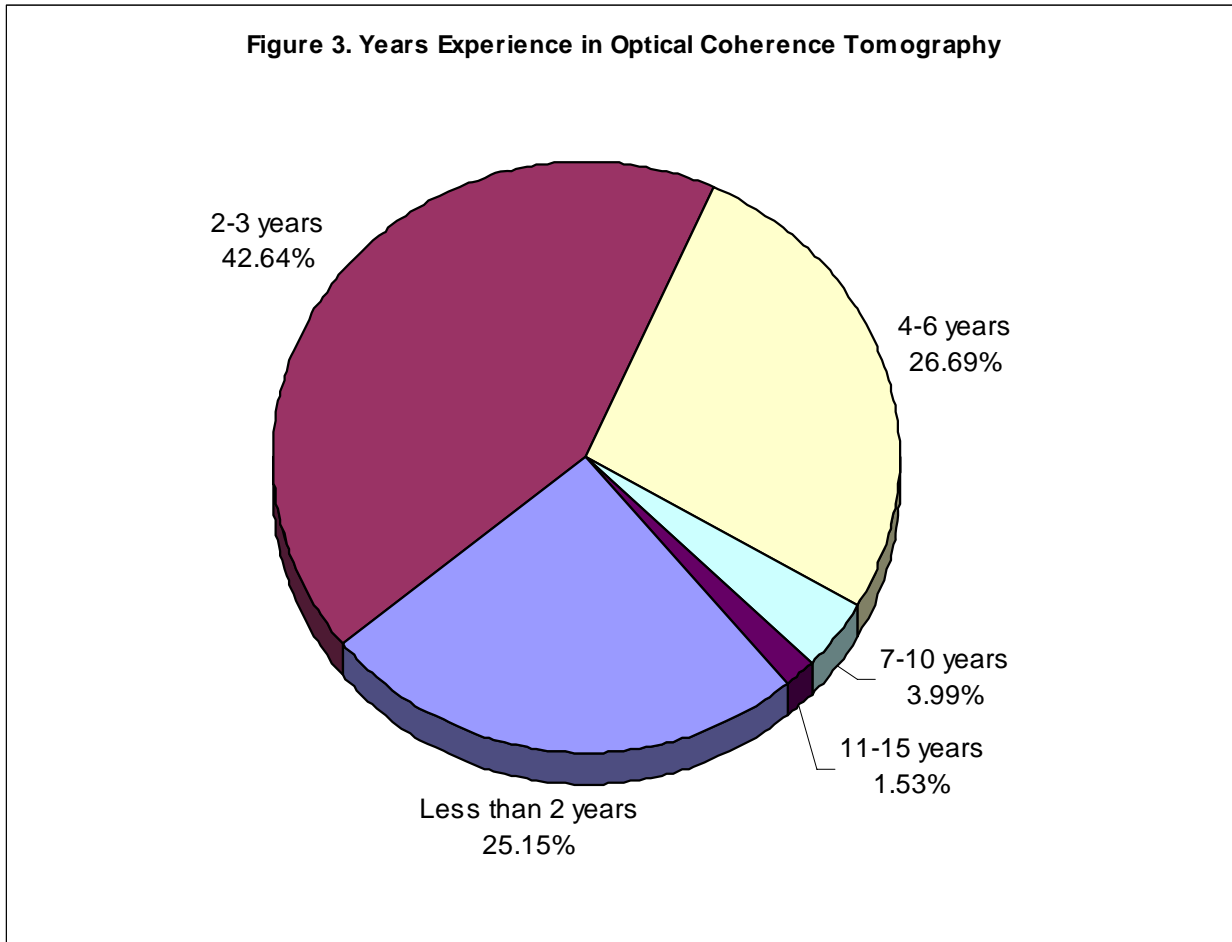
1	Less than 2 years
2	2-3 years
3	4-6 years
4	7-10 years
5	11-15 years
6	16-20 years
7	More than 20 years



**Years Experience in OCT.** In order to understand the respondents' years of professional experience in OCT, OPS asked the question listed below. Of the 328 participants, two did not answer this question. Approximately 43% of the respondents indicated 2-3 years experience, while about 27% indicated 4-6 years. Figure 3 presents the data. Frequency tables can be found in Appendix C.

*Describe your years of professional experience performing OCT:*

1	Less than 2 years
2	2-3 years
3	4-6 years
4	7-10 years
5	11-15 years



**Primary Employment Responsibility.** OPS asked the question listed below in order to better understand the primary responsibility of the respondents. Of the 328 participants over 71% indicated their primary employment responsibility was Ophthalmic Photographer and over 20% indicated Ophthalmic Technician. Table 2 presents the data. Frequency tables can be found in Appendix C.

*Which of the following best describes your primary employment responsibility?*

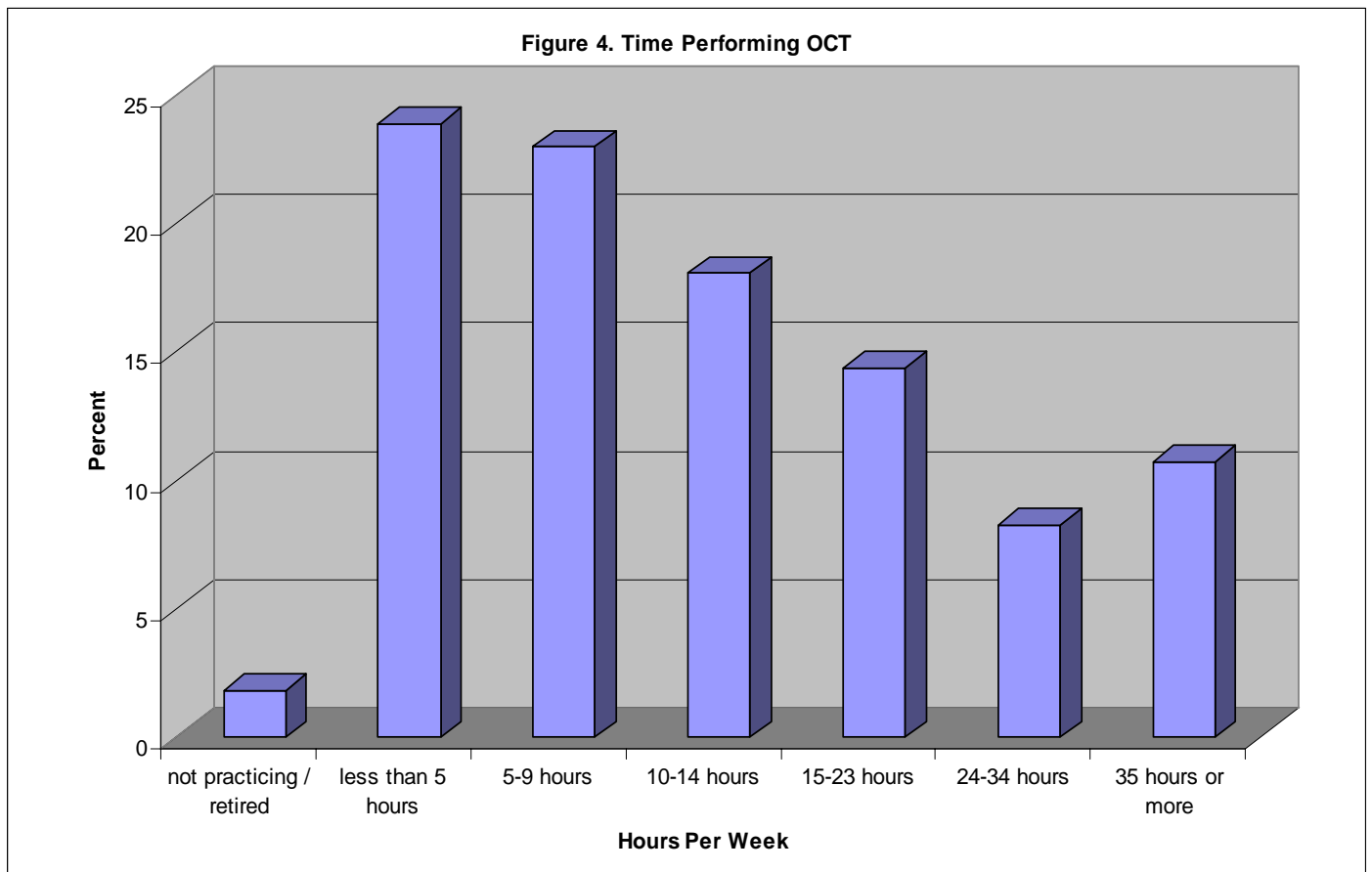
1	Ophthalmic Photographer	6	Information Technology/System Specialist
2	Ophthalmic Technician	7	Orthoptist
3	Medical Photographer	8	Optometrist
4	Manager	9	Nurse
5	Equipment vendor/service technician	10	Physician

Table 2. Primary Employment Responsibility		
	Frequency	Percent
Ophthalmic Photographer	234	71.34
Ophthalmic Technician	67	20.43
Medical Photographer	1	0.30
Manager	16	4.88
Equipment vendor/service tech	3	0.91
Orthoptist	2	0.61
Optometrist	4	1.22
Nurse	1	0.30

**Time Performing OCT.** In order to better understand the amount of time per week respondents spend on OCT, OPS asked the question listed below. Of the 328 participants, one did not answer this question. Approximately 24% of the respondents indicated spending less than 5 hours per week on OCT. Figure 4 presents the data. Frequency tables can be found in Appendix C.

*How much time are you currently performing OCT?*

1	35 hours or more per week
2	24-34 hours per week
3	15-23 hours per week
4	10-14 hours per week
5	5-9 hours per week
6	less than 5 hours per week
7	not currently practicing or retired





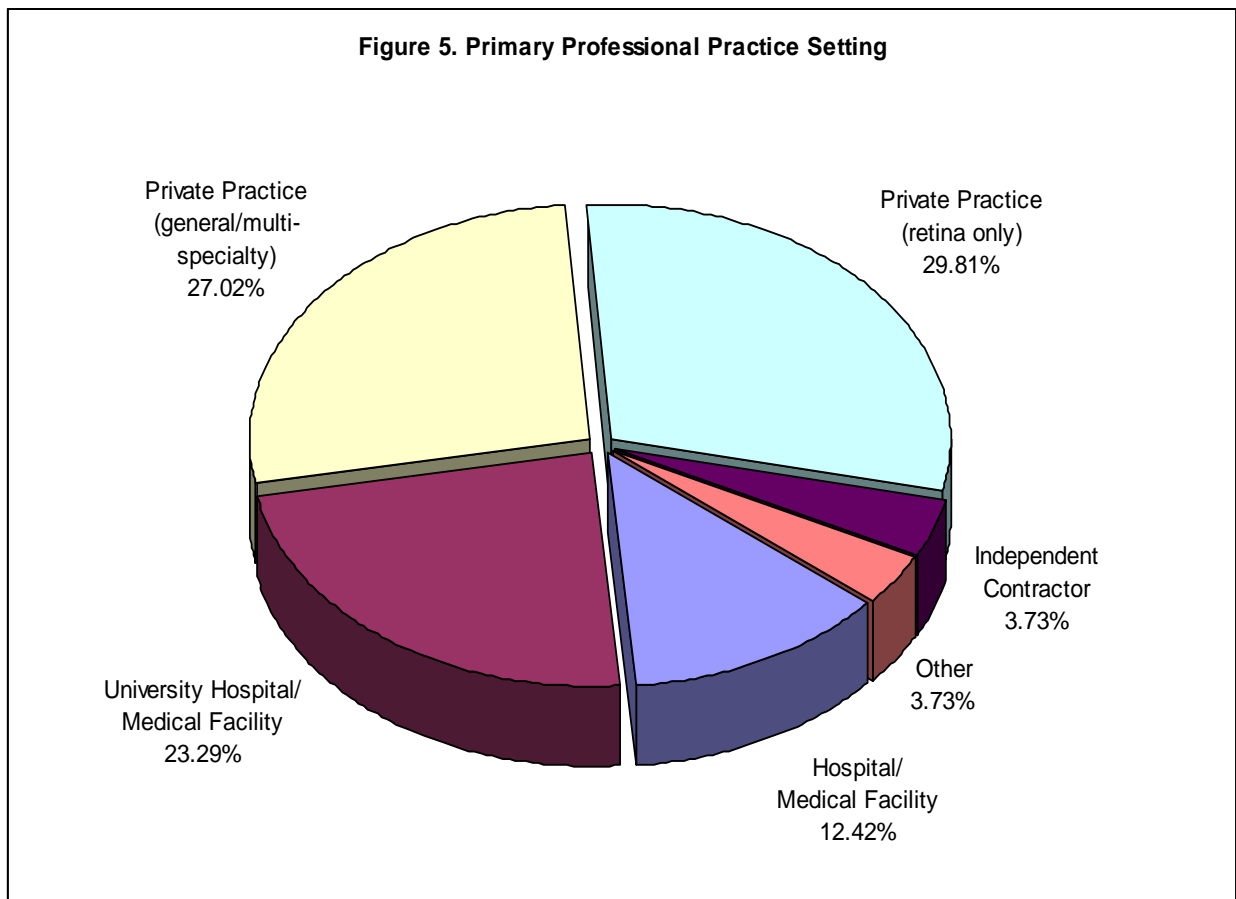
**OCT Unit Use.** OPS asked respondents whether they previously used a Posterior or an Anterior Segment OCT machine, which machine(s) they used and which machine(s) they are using currently. The responses to the questions can be found in Table 3. Respondents most frequently indicated previous use (95.73%) and current use (92.38%) of the Zeiss Stratus (OCT 3) Posterior Segment machine. The majority of respondents indicated previous use (58.84%) and current use (60.37%) of none of the Anterior Segment machines. Frequency tables can be found in Appendix C. Write in responses for respondents choosing “Other” can be found in Appendix D.

Table 3. OCT Unit Use				
Posterior Segment	Previous Usage		Current Usage	
	Frequency	Percent	Frequency	Percent
Zeiss OCT1	29	8.84	2	0.61
Zeiss OCT2	80	24.39	14	4.27
Zeiss Stratus (OCT3)	314	95.73	303	92.38
Ophthalmic Technologies (OTI) OCT/SLO	5	1.52	4	1.22
Other	8	2.44	8	2.44
Anterior Segment				
Anterior Segment	Previous Usage		Current Usage	
	Frequency	Percent	Frequency	Percent
Zeiss	107	32.62	103	31.40
Heidelberg	25	7.62	8	2.44
Other	3	0.91	2	0.61
None	193	58.84	198	60.37

**Primary Professional Practice Setting.** In order to better understand the settings in which the respondents primarily worked, OPS asked the question listed below. Of the 328 participants, 6 did not answer this question. Approximately 30% of the respondents worked in Private Practice (Retina Only), while about 27% of respondents worked in general Private Practice. Figure 5 presents the data. Frequency tables can be found in Appendix C. Write in responses for respondents choosing “Other” can be found in Appendix D.

*Which of the following best describes your primary professional practice setting?*

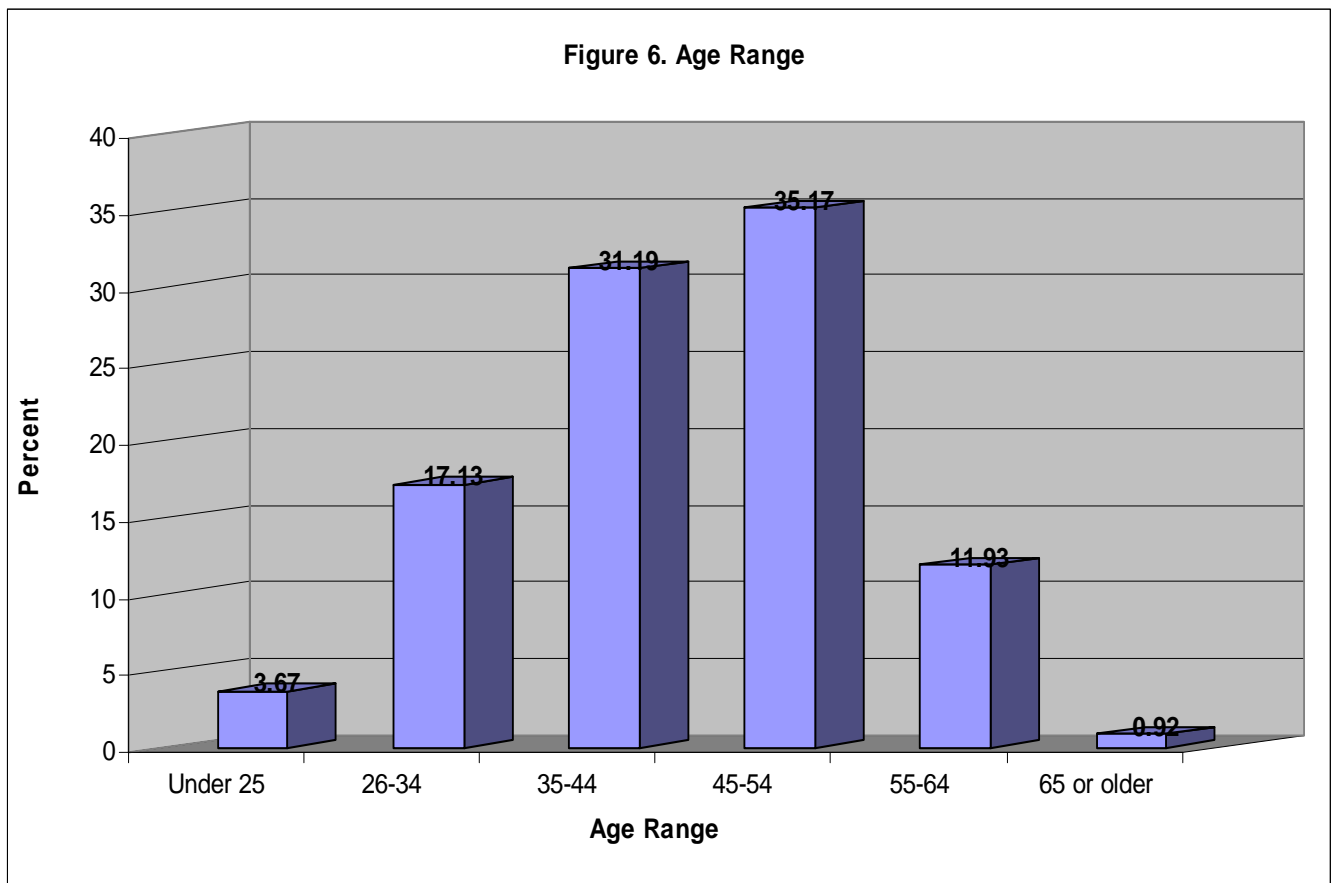
1	Hospital/Medical Facility	4	Private Practice (retina only)
2	University Hospital/Medical Facility	5	Independent Contractor
3	Private Practice (general/multi-specialty)	6	Other



**Age Range.** Respondents were provided six age ranges by OPS. Of the 328 participants, one did not answer this question. About 35% of the respondents selected 45-54 as their age range, while 31.19% indicated 35-44, and 17.13% said their age fell within the 26-34 year range. Only about 4% of respondents were under the age of 25. Frequency tables can be found in Appendix C.

*Please describe your age range:*

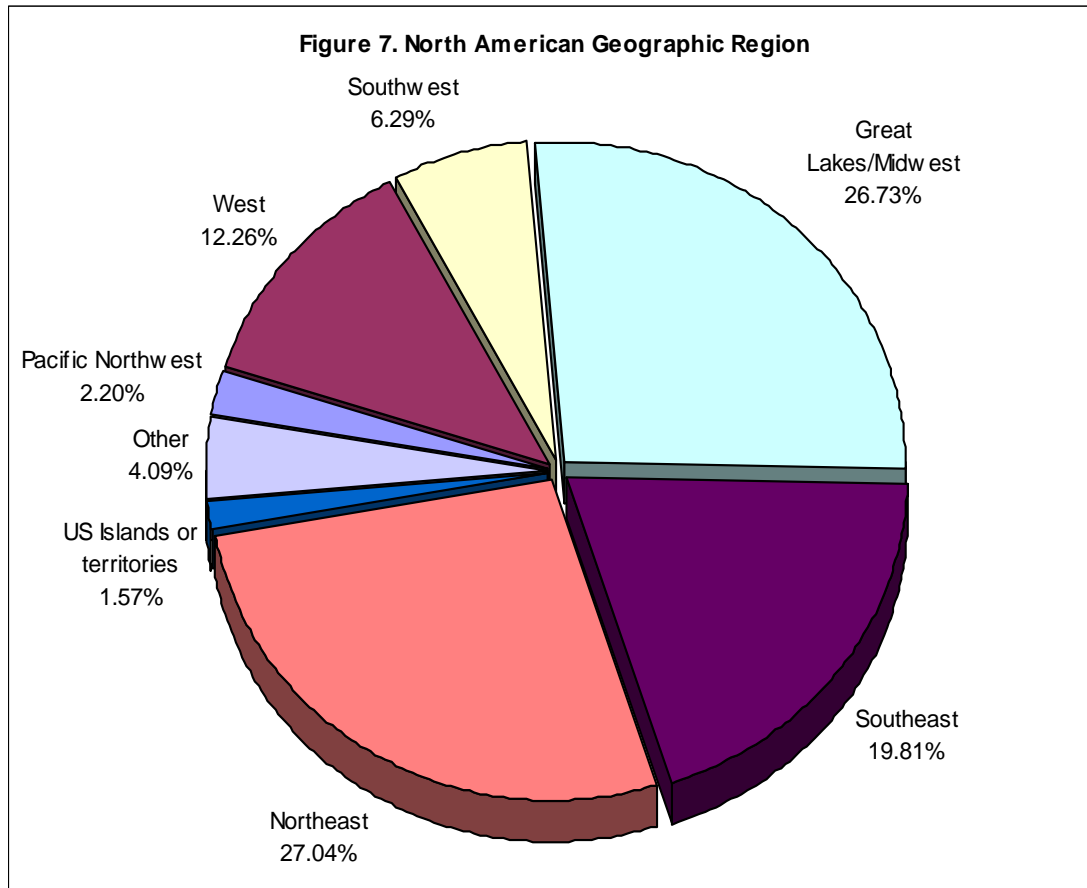
1	Under 25	4	45-54
2	26-34	5	55-64
3	35-44	6	65 or older



**North American Geographic Region.** In order to better understand where in the country participants practiced, OPS asked the question listed below. Of the 328 participants, ten did not answer this question. The largest concentrations of respondents were in the Northeastern (27.04%) and Great Lakes/Midwestern (26.73%) geographic regions. Figure 7 presents the data. Frequency tables can be found in Appendix C.

*Which of the following best describes the North American geographic region in which you practice?*

1	Pacific Northwest	5	Southeast
2	West	6	North East
3	South West	7	US Islands or territories
4	Great Lakes/Midwest	8	Other



**Foreign Practice.** In the question listed below, participants were asked to choose from a list the country in which they practice if it was outside of the North American geographic region. There were 195 countries for participants to choose from. Low percentages of the sample indicated foreign practice. The most commonly selected was Afghanistan (4.27%). Table 4 presents the data. Frequency tables can be found in Appendix C.

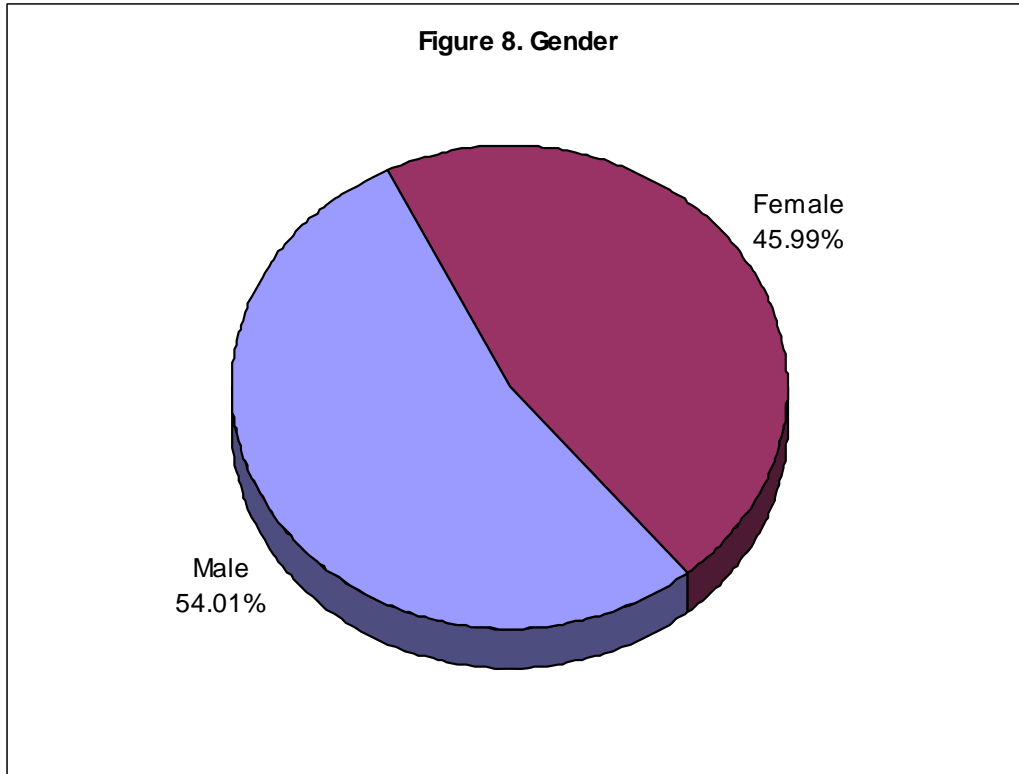
*If you practice outside the North American geographic region, please choose your country*

Table 4. Foreign Practice		
Country	Frequency	Percent
Afghanistan	14	4.27
Algeria	6	1.83
Armenia	2	0.61
Australia	3	0.91

**Certification Credentials.** OPS asked participants to select all certification credentials that they held. About 47% of respondents selected CRA, while 21.34% indicated COA and COTs made up 15.55% of the sample. Table 5 presents the data. Frequency tables can be found in Appendix C.

Table 5. Certification Credentials		
Options	Frequency	Percent
CRA	156	47.56
COA	70	21.34
COT	51	15.55
COMT	12	3.66
RBP	2	0.61
LPN	1	0.30
RN	5	1.52
ROUB	3	0.91
OD	5	1.52
DO	0	0.00
MD	1	0.30
Other	40	12.20

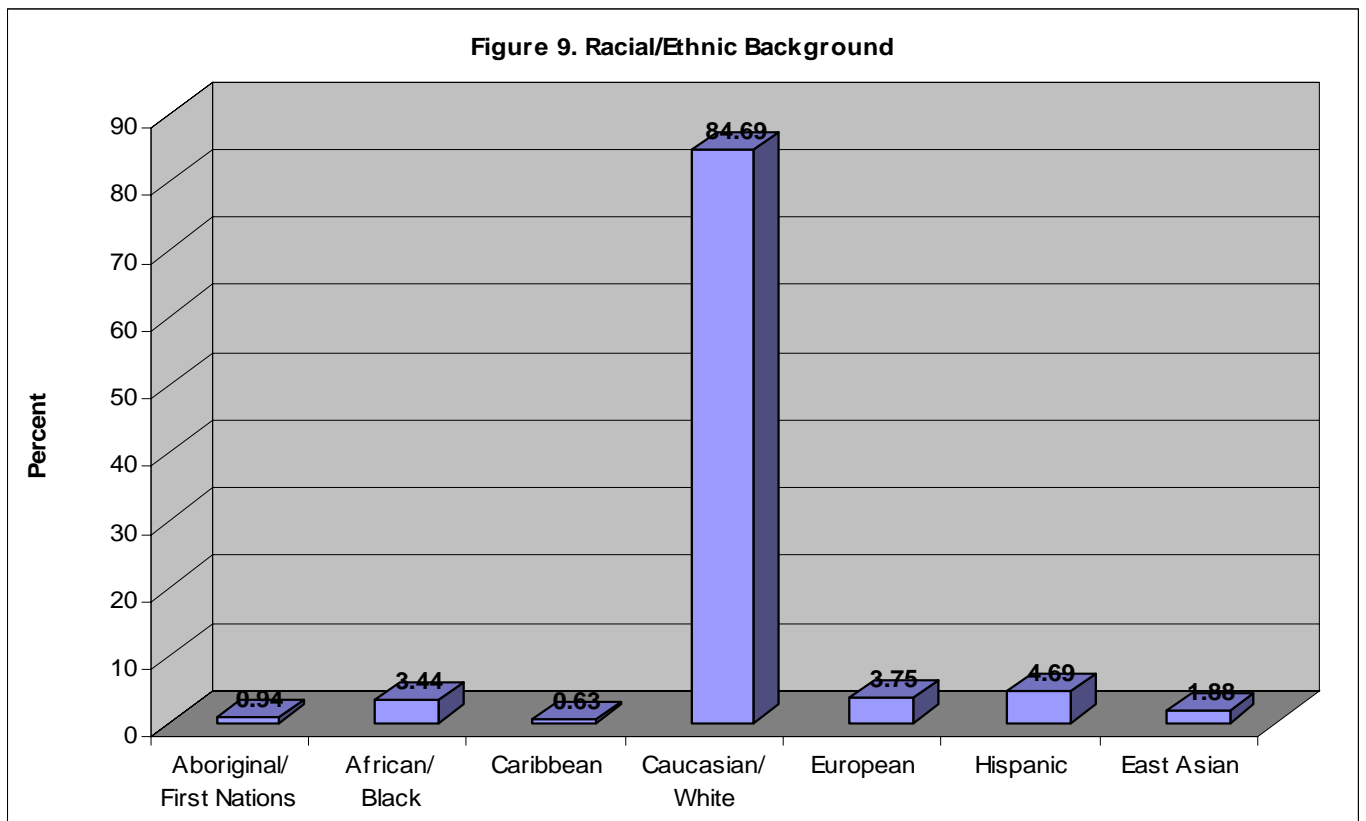
**Gender.** OPS asked participants their gender. Of the 328 participants, four did not answer this question. Approximately 54% of respondents were male and 46% were female. Figure 8 presents the data. Frequency tables can be found in Appendix C.



**Racial/Ethnic Background.** In the question listed below OPS asked respondents to indicate their ethnicity. Of the 328 participants, eight did not answer this question. Approximately 85% of respondents selected Caucasian/White as their ethnicity. The sample also consisted of 3.44% Black/African, 3.75% European, and 4.69% Hispanic respondents. Figure 9 presents the data. Frequency tables can be found in Appendix C.

*Please describe your racial/ethnic background:*

1	Aboriginal/First Nations	6	Hispanic (Latin/South America)
2	African/Black	7	East Asian
3	Caribbean	8	South Asian
4	Caucasian/White	9	West Asian
5	European	10	Other



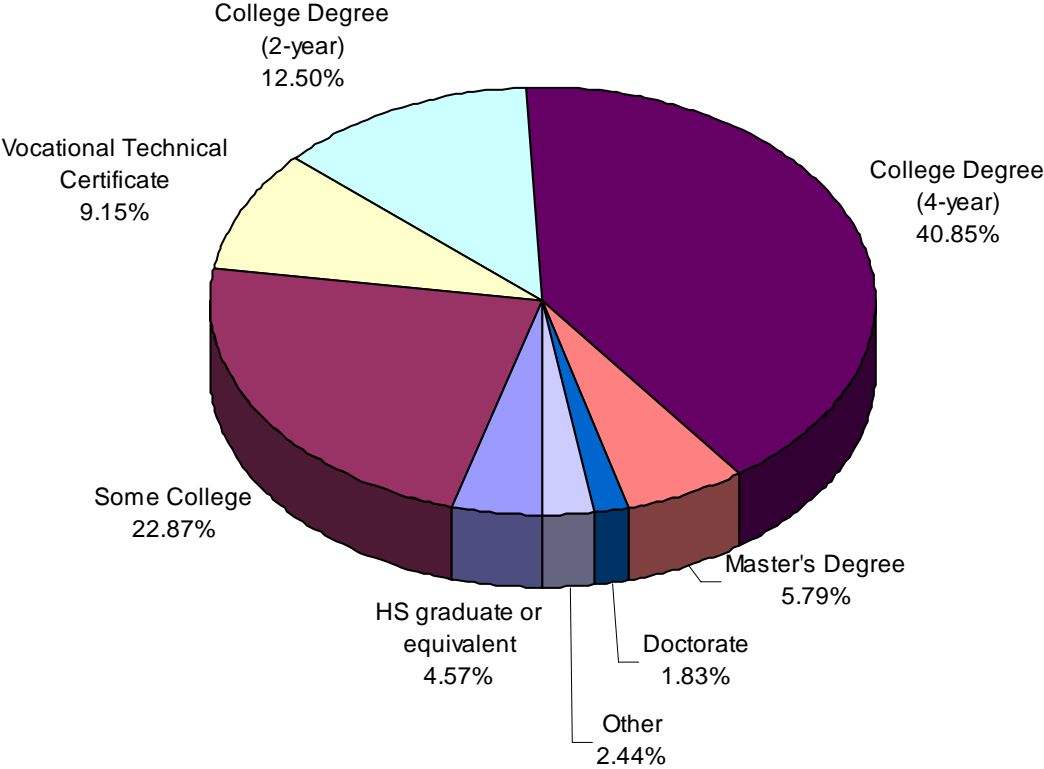
**Formal Education.** The next question on the OPS-OCT survey queried the participants' formal education level. Of the 328 participants, nearly 41% indicated a 4-year college degree as their highest level of formal education while approximately 23% indicated attending some college and 12.5% achieved a 2-year college degree. Figure 10 presents the data. Frequency tables can be found in Appendix C.

*Which of the following describes your highest level of formal education?*

1	Did not complete HS
2	HS graduate or equivalent
3	Some College
4	Vocational Technical Certificate
5	College Degree (2-year)
6	College Degree (4-year)
7	Master's Degree
8	Doctorate (subject )
9	Other



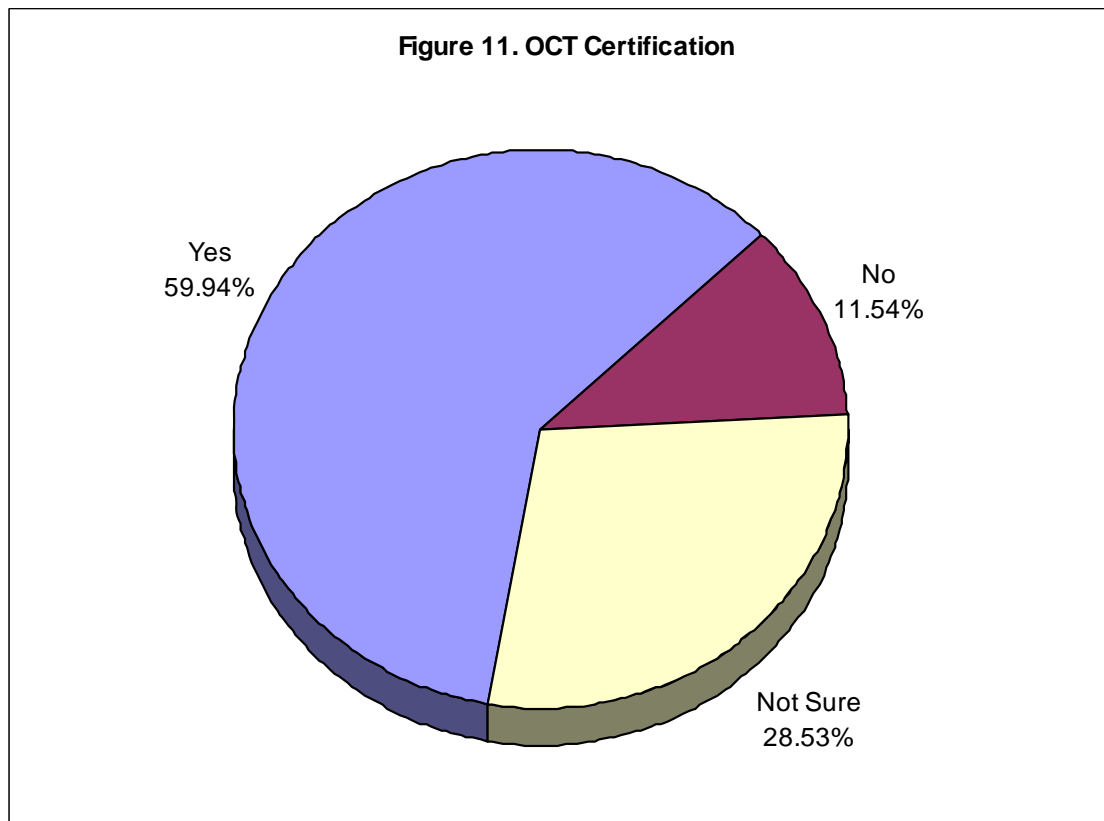
**Figure 10. Formal Education**



**OCT Certification.** Finally, OPS asked participants if they would pursue an OCT certification if it were offered. Of the 328 participants, 16 did not answer this question. A majority (59.94%) of respondents indicated they would pursue the certification if offered and about 29% were not sure. Figure 11 presents the data. Frequency tables can be found in Appendix C.

*If the OPS Board of Certification offered an OCT Certification would you pursue it?*

1	Yes
2	No
3	Not Sure



## **Demographic Summary**

The typical respondent was a middle-aged Caucasian working in private practice. On average, respondents indicated performing OCT roughly five hours a week using a Zeiss (OCT3) Posterior Segment machine. An average respondent carried a CRA credential, had at least a 4-year college degree, over 10 years experience in Ophthalmic Photography, and no less than 2 years experience performing OCT. The typical respondent would pursue an OCT Certification if it were offered by the OPS BOC.

## **Additional Information**

At the end of the survey, respondents were asked if they had any comments or suggested tasks they felt were not included. Space was provided for respondents. The comments and suggested tasks are listed in Appendix E.

## Activity Performance Findings

Summary data were calculated for all activities, including frequency of performance and mean importance data. The summary statistics can be found in Appendix F. Five separate analyses were conducted to determine which activities should be excluded from assessment. The analyses were:

1. Percent Not Performing
2. Mean Importance Rating
3. Mean Importance by Years Experience Subgroup
4. Mean Importance by Geographic Region Subgroup
5. Mean Importance by Practice Setting Subgroup

**Rule 1 Percent Not Performing** The Committee of Subject Matter Experts made the first decision rule based on the percentage of respondents who indicated that they did not perform an activity. To qualify for inclusion, the activity had to have at least 75% of the respondent population indicating that the activity was performed. Nine activities were eliminated based on this decision criterion. Table 6 lists these activities. See Appendix G for activities sorted by Percent Not Performing.

Table 6. Activities Removed By Rule 1 - Percent Not Performing			
ID	Task Description	N	% NP
T154	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure flap thickness	164	42.86%
T155	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure stromal thickness	165	42.11%
T153	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber diameter	170	40.97%
T151	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber depth	173	40.55%
T152	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber angles	173	40.55%
T150	OCT: Anterior Chamber OCT: Demonstrates understanding of layers of cornea	190	35.15%
T148	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment structures	195	33.90%
T149	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment landmarks/terminology	195	33.67%
T98	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Median Smoothing	236	25.55%

**Rule 2 Mean Importance Rating.** The next decision rule established that the mean importance rating must be at least 3.00 (Important) to be included on the final content outline. Thirteen additional activities were eliminated based on this decision criterion. Table 7 lists these activities. See Appendix H for activities sorted by Mean Importance.

Table 7. Activities Removed By Rule 2 - Mean Importance Rating				
ID	Task Description	N	Mean IMP	Std.D
T35	OCT: Understands function/components of OCT machine including: time of flight delay/interferometry	303	2.73	1.05
T71	OCT: Understands/applies scanning protocols: Glaucoma: X-line	243	2.77	1.20
T70	OCT: Understands/applies scanning protocols: Glaucoma: Concentric three-rings	242	2.79	1.23
T54	OCT: Understands/applies scanning protocols: Retina: Concentric three-rings	257	2.80	1.20
T66	OCT: Understands/applies scanning protocols: Glaucoma: Raster Line	243	2.84	1.19
T34	OCT: Understands function/components of OCT machine including: wavelength of laser	309	2.85	1.06
T69	OCT: Understands/applies scanning protocols: Glaucoma: Proportional circle	243	2.86	1.22
T53	OCT: Understands/applies scanning protocols: Retina: Proportional circle	259	2.86	1.17
T97	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Gaussi Smoothing	235	2.88	1.21
T90	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Gaussi Smoothing	254	2.92	1.18
T39	OCT: Performs routine maintenance/equipment troubleshooting including: electronic components	266	2.93	1.12
T91	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Medi Smoothing	251	2.94	1.18
T68	OCT: Understands/applies scanning protocols: Glaucoma: Radial lines	249	2.98	1.27

**Rule 3 Mean Importance by Years Experience Subgroup.** Importance ratings were divided into three subgroups based on respondents' years of OCT experience. These groups are listed below. Group mean importance averages were calculated for all activity statements.

Years Experience - Subgroups	
1	Less Than 2 Years
2	2 To 3 Years
3	More Than 3 Years

The third decision rule established that two of the three years experience subgroups must have a mean importance rating of at least 3.00 (Important) to be included on the final content outline. One additional activity was eliminated based on this decision criterion. Table 8 lists the activity. See Appendix I for Subgroup Analysis by Years Experience.

Table 8. Activity Removed By Rule 3 - Mean Importance by Years Experience Subgroup				
ID	Task Description	Less Than 2 Years	2 to 3 Years	More Than 3 Years
T65	OCT: Understands/applies scanning protocols: Glaucoma: Circle	3.26	2.94	2.89

**Rule 4 Mean Importance by Geographic Region Subgroup.** Importance ratings for all activity statements were calculated for four geographic areas listed below.

Geographic Region - Subgroups	
1	West
2	Great Lakes/Midwest
3	Southeast
4	Northeast

The next decision rule established for an activity to be included on the final content outline the mean importance rating must be at least 3.00 (Important) for three of the four geographic region subgroups. One additional activity was eliminated based on this decision criterion. Table 9 lists the activity. See Appendix J for Subgroup Analysis by Geographic Region.

Table 9. Activity Removed By Rule 4 - Mean Importance by Geographic Region Subgroup					
ID	Task Description	West	Great Lakes / Midwest	Southeast	Northeast
T99	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Proportional	2.84	2.81	3.22	3.39

**Rule 5 Mean Importance by Practice Setting Subgroup.** Importance ratings for all activity statements were calculated for the five practice setting groups listed below.

Practice Setting - Subgroups	
1	Hospital / Medical Facility
2	University Hospital / Medical Facility
3	Private Practice (general / multi-specialty)
4	Private Practice (Retina Only)
5	Other

The fifth and final decision rule established that for an activity to be included on the final content outline the mean importance rating must be at least 3.00 (Important) for four of the five practice setting subgroups. No additional activities were eliminated based on this decision criterion. See Appendix K for Subgroup Analysis by Practice Setting.

**Rule 6 SME Committee Decision.** After applying the five statistically based decision rules, the Committee of Subject Matter Experts reviewed the activities that were excluded and the resulting content outline. Following discussion and deliberation, the Committee came to a consensus on the activity listed below.

1. T34 - OCT: *Understands function/components of OCT machine including: wavelength of laser* - The Committee identified this activity statement for discussion. The activity statement was slated for exclusion based on Rule 2 (Mean Importance). The Committee decided that replacing the wording of "laser" with "light" in the statement would have resulted in a higher mean importance and therefore, the Committee decided to include this activity in the final content for assessment.
2. The Committee decided to move *Domain VII. Data and Image Management* to subsection B under *Domain IV. Optical Coherence Tomography (OCT)*.

### **Summary**

The 2006 entry-level OCT Job Analysis study collected data on the frequency and importance of OCT activity performance. The Committee of Subject Matter Experts established by the BOC reviewed statistical analysis for the 165 OCT activity statements and established statistical criteria for frequency and importance ratings. Of the 165 activity statements, 23 did not meet the criteria for inclusion set by the Committee of Subject Matter Experts.

The activity statements included in the final content met the statistical criteria of importance and frequency of performance established by the Committee of Subject Matter Experts. Importance ratings provided by the OCT respondents were comparable across years experience, geographic region, and practice setting. The test specifications that resulted from the 2006 OCT Job Analysis can be found in Appendix L.

### **Conclusion**

A nonexperimental, descriptive study was performed to explore the importance and frequency of activities performed by post-entry level OCT Imagers. More than 300 OCT Imagers responded. Findings indicate that OCT Imagers work is essentially the same regardless of years experience, geographic region, and practice setting.

## **APPENDIX A**

### **OCT Test Development Committee (*CVs on File with SMT/BOC*)**

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*Allen R. Katz CRA, COT*  
*Paul R. Montague, CRA*  
*Robert W. Cavicchi, CRA.*  
*Jonathan Shankle, CRA*  
*Timothy Bennett, CRA*  
*Russell Burris , CRA*  
*Marina V. Soboleva*  
*Beth Ann Benetz, CRA*



## APPENDIX B

### OPS-OCT Job Analysis Survey Instrument

#### Optical Coherence Tomographer - Demographic Data Collection

Presented below are demographic questions related to the role of the Optical Coherence Tomographer. All information is held in strictest confidence and is used only to establish a profile of the survey respondent group and provide a mechanism by which the survey data can be cross tabulated (e.g., by years of experiences, or practice settings). This data helps to define the role of the Optical Coherence Tomographer through statistical analyses. Please select only one option for each question unless otherwise noted.

1. Which of the following best describes your primary employment responsibility?

(choose one best response)

- Ophthalmic Photographer
- Ophthalmic Technician
- Medical Photographer
- Manager
- Equipment vendor/service technician
- Information Technology/System Specialist
- Orthoptist
- Optometrist
- Nurse
- Physician

2. How much time are you currently performing OCT?

- 35 hours or more per week
- 24-34 hours per week
- 15-23 hours per week
- 10-14 hours per week
- 5-9 hours per week
- less than 5 hours per week
- not currently practicing or retired

3. Describe your years of professional experience in the field of Ophthalmic Photography:

- Less than 2 years
- 2-3 years
- 4-6 years
- 7-10 years
- 11-15 years
- 16-20 years
- More than 20 years

4. Describe your years of professional experience performing OCT:

- Less than 2 years
- 2-3 years
- 4-6 years
- 7-10 years
- 11-15 years

5. Which of the following posterior segment OCT units have you used:

- Zeiss OCT1
- Zeiss OCT2
- Zeiss Stratus (OCT3)
- Ophthalmic Technologies (OTI) OCT/SLO
- other (list) \_\_\_\_\_

6. Which of the following posterior segment OCT units do you currently use:

- Zeiss OCT1
- Zeiss OCT2
- Zeiss Stratus (OCT3)
- Ophthalmic Technologies (OTI) OCT/SLO
- other (list) \_\_\_\_\_

7. Which of the following anterior segment OCT units have you used:

- Zeiss
- Heidelberg
- other (list) \_\_\_\_\_
- none

8. Which of the following anterior segment OCT units do you currently use:

- Zeiss
- Heidelberg
- other (list) \_\_\_\_\_
- none

9. Which of the following best describes your primary professional practice setting?

- Hospital/Medical Facility
- University Hospital/Medical Facility
- Private Practice (general/multi-specialty)
- Private Practice (retina only)
- Independent Contractor
- Other (describe): \_\_\_\_\_

10. Please describe your age range:

- Under 25                       45-54
- 26-34                           55-64
- 35-44                           65 or older

11. Which of the following best describes the North American geographic region in which you practice?

- Pacific Northwest
- West
- South West
- Great Lakes/Midwest
- Southeast
- Northeast
- US Islands or territories
- Other: (describe) \_\_\_\_\_

12. Which of the following Certification Credentials do you hold? (check all that apply)

- |                               |   |
|-------------------------------|---|
| <input type="checkbox"/> CRA  | <input type="checkbox"/> RN                     |
| <input type="checkbox"/> COA  | <input type="checkbox"/> ROUB                   |
| <input type="checkbox"/> COT  | <input type="checkbox"/> OD                     |
| <input type="checkbox"/> COMT | <input type="checkbox"/> DO                     |
| <input type="checkbox"/> RBP  | <input type="checkbox"/> MD                     |
| <input type="checkbox"/> LPN  | <input type="checkbox"/> Other (describe _____) |

13. Gender:  Male  Female

14. Which of the following describes your highest level of formal education?

- Did not complete HS
- HS graduate or equivalent
- Some College
- Vocational Technical Certificate
- College Degree (2-year)
- College Degree (4-year)
- Master's Degree
- Doctorate (subject) \_\_\_\_\_
- Other (describe) \_\_\_\_\_

15. Please describes your racial/ethnic background:

- Aboriginal/First Nations
- African/Black
- Caribbean
- Caucasian/White
- European
- Hispanic (Latin/South America)
- East Asian (China, Vietnam, Thailand, Laos, Philippines, Japan, Korea)
- South Asian (India, Pakistan, Bangladesh, Sri Lanka, Nepal, Burma)
- West Asian (Armenia, Iran, Syria, Turkey, Jordan, Israel)
- Other (describe) \_\_\_\_\_

**Considering both the importance and frequency, how important is the task in relation to the effective and competent performance as an Optical Coherence Tomographer? If you believe the task is not performed by competent Optical coherence Tomographers, please select the “Does Not Perform” rating.**

<b>Of Critical/Extreme Importance</b>	<b>5</b>
<b>Above Average/High Importance</b>	<b>4</b>
<b>Average/Medium Importance</b>	<b>3</b>
<b>Below Average/Low Importance</b>	<b>2</b>
<b>Minimal Importance</b>	<b>1</b>
<b>Does Not Perform</b>	<b>0</b>

- I. Applies the Principles of the Anatomy of the Eye
  - A. Demonstrates an understanding of anterior and posterior segment structures
  - B. Demonstrates an understanding of the layers of the retina
  - C. Demonstrates an understanding of Optic Nerve Anatomy
  - D. Demonstrates an understanding of anatomical landmarks and terminology
- II. Applies the Concepts of Pathology of the Eye to OCT findings
  - A. Recognize and identify the ocular manifestations of:
    1. retinal diseases
    2. optic nerve disorders
    3. systemic diseases
  - B. Recognize and identify the clinical OCT findings of:
    1. diabetic retinopathy/macular edema
    2. macular degeneration/choroidal neovascular membrane
    3. central serous retinopathy/subretinal fluid
    4. cystoid macular edema/diffuse macular edema
    5. retinal holes: pseudo/lamellar/full thickness
    6. glaucoma
    7. papilledema/optic pit
    8. epiretinal membrane
    9. vitreomacular traction
    10. posterior vitreous detachment/weiss ring
    11. pigment epithelial detachment
    12. retinal detachment/retinoschisis
    13. drusen/ hard and soft exudates
    14. drusen, ONH
    15. pathologic myopia
    16. retinal nerve fiber layer defects
    17. Venous/Arterial Occlusions
    18. Tumors/Nevi
    19. Asteroid Hyalosis/Vitreous Hemorrhage
- III. Patient Management
  - A. Informs patient of procedures to be performed.
  - B. Answers patient questions concerning the procedure
  - C. Establishes fixation
  - D. Elicits cooperation from uncooperative or physically disabled patients
  - E. Establishes/reviews patient records including:
    1. medical/surgical history

2. ocular history
  3. photographic history
- IV. Optical Coherence Tomography (OCT)
- A. Understands the use of OCT equipment and properties:
    1. Understands the function and components of the OCT machine including:
      - a. wavelength of laser
      - b. time of flight delay/interferometry
      - c. limitations of machine
      - d. working distance
      - e. resolution
    2. Performs routine maintenance and equipment troubleshooting including:
      - a. electronic components
      - b. cleaning equipment
      - c. software maintenance
    3. Understands and applies scanning protocols
      - a. Retina
        1. Macular thickness map/Radial Lines
        2. Fast macular thickness map
        3. Optic Disc/Fast Optic Disc
        4. RNFL thickness 3.4/Fast RNFL Thickness 3.4
        5. RNFL map/Fast RNFL map
        6. Nerve head circle
        7. Line
        8. Circle
        9. Raster Line
        10. Cross hair
        11. Radial lines
        12. Proportional circle
        13. Concentric three-rings
        14. X-line
        15. Custom Scan
        16. Repeat
      - b. Glaucoma
        1. Macular thickness map/Radial Lines
        2. Fast macular thickness map
        3. Optic Disc/Fast Optic Disc
        4. RNFL thickness 3.4/Fast RNFL Thickness 3.4
        5. RNFL map/Fast RNFL map
        6. Nerve head circle
        7. Line
        8. Circle
        9. Raster Line
        10. Cross hair
        11. Radial lines
        12. Proportional circle
        13. Concentric three-rings
        14. X-line
        15. Custom Scan
        16. Repeat
    4. Understands and selects analysis protocols
      - a. Quantitative analysis - Retina
        1. Retinal Thickness
        2. Retinal Map
        3. Retinal Thickness / Volume
        4. Retinal Thickness / Volume Tabular
        5. Retinal Thickness / Volume Change
      - b. Quantitative analysis – Glaucoma

1. Retinal Thickness / Volume Tabular
2. Retinal Thickness / Volume Change
3. RNFL Thickness
4. RNFL Thickness Average
5. RNFL Thickness Map
6. RNFL Thickness Change
7. RNFL Thickness Serial Analysis
8. Optic Nerve Head
- c. Image Processing Protocols – Retina
  1. Normalize
  2. Align
  3. Normalize & Align
  4. Gaussian Smoothing
  5. Median Smoothing
  6. Proportional
  7. Scan Profile
- d. Image Processing Protocols – Glaucoma
  1. Normalize
  2. Align
  3. Normalize & Align
  4. Gaussian Smoothing
  5. Median Smoothing
  6. Proportional
  7. Scan Profile
5. Understands the function and properties of the following:
  - a. Controls
    1. Chin/Forehead rest
    2. Table height
    3. Internal fixation device
    4. External fixation device
    5. Focus knob
    6. Video brightness
    7. Video contrast
    8. OCT Image noise
    9. OCT Image range
    10. Line length
    11. Line angle
  - b. z offset
    1. Auto
    2. Manual
  - c. Position/move patient module
  - d. Polarization
    1. Auto
    2. Manual
  - e. Resolution

V. Interpretation of OCT

A. Retina

1. False color scale
2. Center point
3. Center thickness measurement
4. Total macular volume
5. Retinal map
6. Measurement calipers
7. Shadowing
8. Analysis artifacts/plotting errors/failures
9. Signal strength
10. +/- Center deviation

- 11. Signal-to-noise ratio
- 12. Accepted A-Scan%
- B. Optic Nerve
  - 1. False color scale
  - 2. Disc reference points
  - 3. Surface sensitivity
  - 4. Disc area
  - 5. Cup area
  - 6. Rim area
  - 7. Cup/disc area ratio
  - 8. Cup/disc horizontal ratio
  - 9. Cup/disc vertical ratio
  - 10. Analysis artifacts
  - 11. Save current result
- C. Troubleshooting
  - 1. Vibration
  - 2. Printer maintenance
  - 3. Patient tear film
  - 4. Clean lens
  - 5. IOL
  - 6. Dilation
  - 7. Media opacities
- VI. Anterior Chamber OCT
  - A. Demonstrates an understanding of anterior segment structures
  - B. Demonstrates an understanding of anterior segment landmarks and terminology
  - C. Demonstrates an understanding of the layers of the cornea
  - D. Understands and selects analysis protocols
    - 1. Measure anterior segment ocular structures
      - a. Anterior chamber depth
      - b. Anterior chamber angles
      - c. Anterior chamber diameter
    - 2. Measure flap thickness
    - 3. Measure stromal thickness
- VII. Data and Image Management
  - A. Storage utilization
  - B. Organizes archival system
  - C. Coordinates network file transfers for archiving/patient data base systems
  - D. Exports Images and data:
    - 1. to CD /DVD-Ram
    - 2. to external USB device
    - 3. floppy
  - E. Networks the OCT
- VIII. Patient/Operator Safety
  - A. Adheres to Universal Precautions as defined by the Centers for Disease Control and Prevention (CDC)
  - B. Observes Occupational Safety and Health Administration (OSHA) and The National Institute for Occupational Safety and Health (NIOSH) regulations relating to OCT
  - C. Understands HIPAA confidentiality and privacy regulations relating to OCT



How well do you feel the survey covered the tasks performed by the competent, Optical Coherence Tomographer?

- Completely
- Adequately
- Inadequately

If you felt the survey inadequately described the role, please specify why:

Please list any additional tasks that you felt should have been included on the survey.

## APPENDIX C Frequency Output Tables

**Describe your years of professional experience in the field of Ophthalmic Photography:**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 2 years	14	4.3	4.3	4.3
	2-3 years	22	6.7	6.7	11.0
	4-6 years	45	13.7	13.8	24.8
	7-10 years	41	12.5	12.6	37.4
	11-15 years	43	13.1	13.2	50.6
	16-20 years	57	17.4	17.5	68.1
	More than 20 years	104	31.7	31.9	100.0
	Total	326	99.4	100.0	
Missing	System	2	.6		
Total		328	100.0		

**Describe your years of professional experience performing OCT:**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 2 years	82	25.0	25.2	25.2
	2-3 years	139	42.4	42.6	67.8
	4-6 years	87	26.5	26.7	94.5
	7-10 years	13	4.0	4.0	98.5
	11-15 years	5	1.5	1.5	100.0
	Total	326	99.4	100.0	
Missing	System	2	.6		
Total		328	100.0		

**Which of the following best describes your primary employment responsibility?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ophthalmic Photographer	234	71.3	71.3	71.3
	Ophthalmic Technician	67	20.4	20.4	91.8
	Medical Photographer	1	.3	.3	92.1
	Manager	16	4.9	4.9	97.0
	Equipment vendor/service tech	3	.9	.9	97.9
	Orthoptist	2	.6	.6	98.5
	Optometrist	4	1.2	1.2	99.7
	Nurse	1	.3	.3	100.0
	Total	328	100.0	100.0	

**How much time are you currently performing OCT?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	35 hours or more per week	35	10.7	10.7	10.7
	24-34 hours per week	27	8.2	8.3	19.0
	15-23 hours per week	47	14.3	14.4	33.3
	10-14 hours per week	59	18.0	18.0	51.4
	5-9 hours per week	75	22.9	22.9	74.3
	less than 5 hours per week	78	23.8	23.9	98.2
	not currently practicing or retired	6	1.8	1.8	100.0
	Total	327	99.7	100.0	
Missing	System	1	.3		
Total		328	100.0		

**Posterior Segment Used**

**Zeiss OCT1**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	29	8.8	100.0	100.0
Missing	System	299	91.2		
Total		328	100.0		

**Zeiss OCT2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	80	24.4	100.0	100.0
Missing	System	248	75.6		
Total		328	100.0		

**Zeiss Stratus (OCT3)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	314	95.7	100.0	100.0
Missing	System	14	4.3		
Total		328	100.0		

**Ophthalmic Technologies (OTI) OCT/SLO**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Selected	5	1.5	100.0	100.0
Missing System	323	98.5		
Total	328	100.0		

**Other**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Selected	8	2.4	100.0	100.0
Missing System	320	97.6		
Total	328	100.0		

**Posterior Segment Current**

**Zeiss OCT1**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Selected	2	.6	100.0	100.0
Missing System	326	99.4		
Total	328	100.0		

**Zeiss OCT2**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Selected	14	4.3	100.0	100.0
Missing System	314	95.7		
Total	328	100.0		

**Zeiss Stratus (OCT3)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Selected	303	92.4	100.0	100.0
Missing System	25	7.6		
Total	328	100.0		

**Ophthalmic Technologies (OTI) OCT/SLO**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	4	1.2	100.0	100.0
Missing	System	324	98.8		
Total		328	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	8	2.4	100.0	100.0
Missing	System	320	97.6		
Total		328	100.0		

**Anterior Segment Used**

**Zeiss**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	107	32.6	100.0	100.0
Missing	System	221	67.4		
Total		328	100.0		

**Heidelberg**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	25	7.6	100.0	100.0
Missing	System	303	92.4		
Total		328	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	3	.9	100.0	100.0
Missing	System	325	99.1		
Total		328	100.0		

**None**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	193	58.8	100.0	100.0
Missing	System	135	41.2		
Total		328	100.0		

## Anterior Segment Current

### Zeiss

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	103	31.4	100.0	100.0
Missing	System	225	68.6		
Total		328	100.0		

### Heidelberg

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	8	2.4	100.0	100.0
Missing	System	320	97.6		
Total		328	100.0		

### Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	2	.6	100.0	100.0
Missing	System	326	99.4		
Total		328	100.0		

### None

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	198	60.4	100.0	100.0
Missing	System	130	39.6		
Total		328	100.0		

**Which of the following best describes your primary professional practice setting?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hospital/Medical Facility	40	12.2	12.4	12.4
	University	75	22.9	23.3	35.7
	Hospital/Medical Facility				
	Private Practice (general/multi-specialty)	87	26.5	27.0	62.7
	Private Practice (retina only)	96	29.3	29.8	92.5
	Independent Contractor	12	3.7	3.7	96.3
	Other	12	3.7	3.7	100.0
	Total	322	98.2	100.0	
Missing	System	6	1.8		
Total		328	100.0		

**Please describe your age range:**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 25	12	3.7	3.7	3.7
	26-34	56	17.1	17.1	20.8
	35-44	102	31.1	31.2	52.0
	45-54	115	35.1	35.2	87.2
	55-64	39	11.9	11.9	99.1
	65 or older	3	.9	.9	100.0
	Total	327	99.7	100.0	
Missing	System	1	.3		
Total		328	100.0		

**Which of the following best describes the North American geographic region in which you practice?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pacific Northwest	7	2.1	2.2	2.2
	West	39	11.9	12.3	14.5
	Southwest	20	6.1	6.3	20.8
	Great Lakes/Midwest	85	25.9	26.7	47.5
	Southeast	63	19.2	19.8	67.3
	Northeast	86	26.2	27.0	94.3
	US Islands or territories	5	1.5	1.6	95.9
	Other	13	4.0	4.1	100.0
	Total	318	97.0	100.0	
Missing	System	10	3.0		
Total		328	100.0		

## Credentials

### CRA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	156	47.6	100.0	100.0
Missing	System	172	52.4		
Total		328	100.0		

### COA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	70	21.3	100.0	100.0
Missing	System	258	78.7		
Total		328	100.0		

### COT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	51	15.5	100.0	100.0
Missing	System	277	84.5		
Total		328	100.0		

### COMT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	12	3.7	100.0	100.0
Missing	System	316	96.3		
Total		328	100.0		

### RBP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	2	.6	100.0	100.0
Missing	System	326	99.4		
Total		328	100.0		

### LPN

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	1	.3	100.0	100.0
Missing	System	327	99.7		
Total		328	100.0		



**RN**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	5	1.5	100.0	100.0
Missing	System	323	98.5		
Total		328	100.0		

**ROUB**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	3	.9	100.0	100.0
Missing	System	325	99.1		
Total		328	100.0		

**OD**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	5	1.5	100.0	100.0
Missing	System	323	98.5		
Total		328	100.0		

**DO**

		Frequency	Percent
Missing	System	328	100.0

**MD**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	1	.3	100.0	100.0
Missing	System	327	99.7		
Total		328	100.0		

**Other**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selected	40	12.2	100.0	100.0
Missing	System	288	87.8		
Total		328	100.0		

**Gender:**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	175	53.4	54.0	54.0
	Female	149	45.4	46.0	100.0
	Total	324	98.8	100.0	
Missing	System	4	1.2		
Total		328	100.0		

**Which of the following describes your highest level of formal education?**

		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	HS graduate or equivalent	15	4.6	4.6	4.6	
	Some College	75	22.9	22.9	27.4	
	Vocational Technical Certificate	30	9.1	9.1	36.6	
	College Degree (2-year)	41	12.5	12.5	49.1	
	College Degree (4-year)	134	40.9	40.9	89.9	
	Master's Degree	19	5.8	5.8	95.7	
	Doctorate	6	1.8	1.8	97.6	
	Other	8	2.4	2.4	100.0	
	Total		328	100.0	100.0	

**Please describe your racial/ethnic background:**

		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Aboriginal/First Nations	3	.9	.9	.9	
	African/Black	11	3.4	3.4	4.4	
	Caribbean	2	.6	.6	5.0	
	Caucasian/White	271	82.6	84.7	89.7	
	European	12	3.7	3.8	93.4	
	Hispanic (Latin/S. America)	15	4.6	4.7	98.1	
	East Asian	6	1.8	1.9	100.0	
	Total		320	97.6	100.0	
	Missing	System	8	2.4		
Total		328	100.0			

**How well do you feel the survey covered the tasks performed by the competent,  
Optical Coherence Tomographer?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely	149	45.4	47.3	47.3
	Adequately	156	47.6	49.5	96.8
	Inadequately	10	3.0	3.2	100.0
	Total	315	96.0	100.0	
Missing	System	13	4.0		
Total		328	100.0		

**If you practice outside the North American geographic region, please choose  
your country**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Afghanistan	14	4.3	56.0	56.0
	Algeria	6	1.8	24.0	80.0
	Armenia	2	.6	8.0	88.0
	Australia	3	.9	12.0	100.0
	Total	25	7.6	100.0	
Missing	System	303	92.4		
Total		328	100.0		

**If the OPS Board of Certification offered an OCT Certification would you  
pursue it?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	187	57.0	59.9	59.9
	No	36	11.0	11.5	71.5
	Not Sure	89	27.1	28.5	100.0
	Total	312	95.1	100.0	
Missing	System	16	4.9		
Total		328	100.0		

## APPENDIX D

### Write-in Responses

Record ID	Posterior Segment Used: Other
1028	conventional digital retinal cameras
1145	GDx
1233	GDx
1099	hrt
1240	hrt
1313	I only do photography, graphics & IT
1052	Spectral Domain Prototype
1334	Stratus 4.0
1261	StratusOCT4
1065	Topcon OCT
1107	WE ARE USING DGX MACHINE
1238	Zeiss 450
1177	Zeiss Stratus (OCT4)

Record ID	posterior Segment Current: Other
1028	digital retinal cameras
1145	GDx
1233	GDx
1208	heidleberg
1099	hrt
1069	Model 3000
1273	none
1021	OCT4
1052	Spectral Domain Prototype
1334	Stratus 4.0
1261	Stratus OCT4
1065	Topcon OCT
1238	Zeiss 450
1177	Zeiss Stratus (OCT4)

Record ID	Anterior Segment Used: Other
1157	Have used Stratus OCT for ant segment OCT
1009	research instrument
1028	slit lamp endothelial camera

Record ID	Anterior Segment Current: Other
1082	have just received the Visante OCT, but have not used yet
1009	research instrument
1028	slit lamp
1157	Stratus OCT

<b>Record ID</b>	<b>Primary Practice Setting: Other</b>
1251	Clinical Application Specialist
1288	NEI/NIH
1279	private practice
1122	St. Luke's Clinic
1096	VA Medical Center
1303	Vendor
1051	Zeiss Imaging Rep / Former University Photographer

## APPENDIX E

### Comments and Suggested Tasks

Record ID	Comments
1252	Certification in clinical trials was not covered
1288	Extensive knowledge is not needed unless MD expects operators to interpret. It's a simple point and shoot machine. One can make it as complex as one wishes but it's not needed to get reliable scans
1083	I felt unsure about answering questions based on OCT functions that I do not perform.
1230	In a retinal practice optic nerve scans are rarely performed.
1279	It gets to be routine and overtime you start to know what you are looking for, this survey has nothing to do with the quality of the scan, you can do everything correct but if they have a poor view you have a poor scan. I am training people at my work with out background knowledge of the anatomy of the eye and they are doing great
1039	Maintenance, software updates, networking, exporting, and other non-scanning duties are not essential to performing good scans. These things are important to me. I understand their importance, but not everyone doing a scan needs to know everything.
1063	Often in a practice it is a "new" piece of equipment and the initial use is taught by a sales rep and once shown you use the equipment to its minimal capability based on that training. That is the problem; such is with my clinic at a VA med center. There is no formal training. THAT is what should occur, to better serve the patient and the physician ordering the study.
1136	Poorly written
1012	Some practices don't utilize the OCT as they could. Our doctors don't seem to be concerned with all the capabilities it has.
1314	Some scan analysis modules unrelated to disease processes
1140	T34: The OCT does not use a laser as light source, this question is misleading. The light source is a super luminescent diode
1097	The anterior segment questions only apply to the machine and operator in a clinic that has this specific model, which most clinics don't have
1001	The majority of the scan protocols are not performed in our practice.
1076	This test was worded poorly
1220	What's important in my practice may not be in another i.e. retina only practice rarely does the glaucoma studies yet we are asked to rate importance.

Record ID	Suggested Tasks
1100	\$0.02 worth ... Many physicians order OCT without clear reason or understanding of the equipment limitations. 90% of our testing is by rote with little value.
1004	Ask if our OCT Rep from Zeiss ever returns phone calls to offer a demonstration - NO!
1024	DIALATION, MEDIA OPACITIES, MOVING SCAN OUTSIDE FOVEA
1293	Distinguishing useful from less-than-useful data
1321	exporting patient images from database to folders to be sent electronically, and also mention of study protocols for OCT
1086	Finding mac/retinal holes
1256	Have more categories on person using instrument (CPOA, CPOT)
1341	Have you been trained adequately?
1046	I do extensive explanation of images to patients. Also relate the reasoning and relationship between FA and OCT. Check for artifacts or apparent inconsistencies in multiple visit imaging.
1353	I do not perform Anterior Chamber OCT, nor Glaucoma Screening, we use a Heidelberg HRT2 for this
1282	I don't do anterior OCT so my answers may not apply.
1267	I hope I didn't skew the results because I only do retinal patients. In 4-5 years I've only once done a glaucoma scan! Also, Hippa is an American standard that doesn't apply to me. The survey should have been more universal and perhaps included an opt-out option, or % question as to retinal vs. glaucoma workload.
1139	I would lump OCT into the CRA duties
1140	Info on the OTI software
1067	Knowledge of policies regarding installation or modification of additional software to OCT instruments.
1288	Maybe there should be several levels of cert. I could teach my 15yo to produce good scans in an afternoon but he won't know what he's looking at. So the question is does he need to know. Maybe, maybe not. Don't over do it, it's not surgery.
1259	Measurement of Nevi & Cysts
1272	media opacities and difficult media techniques
1291	More on troubleshooting
1251	new pt. info entry, registration of staff/diagnosis,
1151	OCT protocol for research studies
1206	operators ability to find abnormalities such as mac hole, nevi
1232	responsibility of performing tests not requested by Dr.
1038	Retrieving a deleted file. NOT EASY
1153	selection of appropriate images for printing
1090	Solid understanding of refractive errors and how they can affect your scan. Coaching patient's with no central vision.
1051	some of the questions in the survey were N/A to the section heading they were under
1123	The OCT certification should be part of the CRA certification, not a separate certification
1279	The print out depends on the doctor, I would like to know more on glaucoma that is a lot harder than macula
1085	ultrasound, corneal topography, etc.
1077	using for research participant f/u
1202	Using my discretion to perform tests not requested by Drs.
1312	You may want to ascertain how the respondent's clinic practice utilizes their OCT. My practice for instance, does almost no glaucoma studies; uses almost none of the analytical or imaging capabilities of OCT; does no RNFL mapping. They primarily want to see the pictures and make their diagnosis on that basis. This is reflected in many of my responses.

## APPENDIX F

### Tasks Sorted in Survey Order

ID	Task Description	N	% NP	Mean IMP	Std.D
T1	Applies Principles of anatomy of Eye: Demonstrates understanding of Anterior/posterior segment structures	325	0.61%	4.20	0.94
T2	Applies Principles of anatomy of Eye: Demonstrates understanding of layers of retina	328	0.00%	4.11	0.98
T3	Applies Principles of anatomy of Eye: Demonstrates understanding of Optic Nerve atomy	324	1.22%	3.87	0.99
T4	Applies Principles of anatomy of Eye: Demonstrates understanding of anatomical Idmarks/terminology	327	0.00%	4.42	0.76
T5	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: retinal diseases	326	0.00%	4.20	0.84
T6	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: optic nerve disorders	320	1.84%	3.68	1.02
T7	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: systemic diseases	320	1.23%	3.32	1.05
T8	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: diabetic retinopathy/macular edema	323	0.00%	4.22	0.88
T9	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: macular degeneration/choroidal neovascular membrane	325	0.00%	4.19	0.89
T10	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: central serous retinopathy/subretinal fluid	322	0.00%	4.17	0.91
T11	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: cystoid macular edema/diffuse macular edema	325	0.00%	4.24	0.86
T12	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal holes: pseudo/lamellar/full thickness	322	0.31%	4.31	0.85
T13	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: glaucoma	311	3.42%	3.64	1.09
T14	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: papilledema/optic pit	315	1.87%	3.60	1.11
T15	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: epiretinal membrane	321	0.00%	4.20	0.88
T16	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: vitreomacular traction	322	0.00%	4.08	0.95
T17	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: posterior vitreous detachment/weiss ring	313	1.57%	3.73	1.05
T18	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pigment epilial detachment	317	0.31%	4.03	0.99
T19	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal detachment/retinoschisis	316	0.94%	3.84	1.10
T20	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen/ hard/soft exudates	314	1.88%	3.64	1.02
T21	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen, ONH	312	2.80%	3.51	1.11
T22	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pathologic myopia	312	2.50%	3.40	1.12



ID	Task Description	N	% NP	Mean IMP	Std.D
T23	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal nerve fiber layer defects	311	2.51%	3.69	1.07
T24	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Venous/Arterial Occlusions	311	2.81%	3.55	1.15
T25	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Tumors/Nevi	313	2.49%	3.67	1.10
T26	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Asteroid Hyalosis/Vitreous Hemorrhage	306	4.38%	3.54	1.13
T27	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Informs patient of procedures to be performed.	321	0.31%	4.43	0.78
T28	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: swers patient questions concerning procedure	322	0.31%	4.39	0.78
T29	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes fixation	323	0.00%	4.67	0.62
T30	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Elicits cooperation from uncooperative or physically disabled patients	322	0.00%	4.45	0.83
T31	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: medical/surgical history	307	4.95%	3.53	1.16
T32	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: ocular history	310	4.02%	3.84	1.10
T33	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: photographic history	312	2.80%	3.73	1.08
T34	OCT: Understands function/components of OCT machine including: wavelength of laser	309	4.63%	2.85	1.06
T35	OCT: Understands function/components of OCT machine including: time of flight delay/interferometry	303	6.48%	2.73	1.05
T36	OCT: Understands function/components of OCT machine including: limitations of machine	322	0.62%	3.85	1.03
T37	OCT: Understands function/components of OCT machine including: working dist	320	1.23%	3.84	1.06
T38	OCT: Understands function/components of OCT machine including: resolution	322	0.31%	3.80	1.02
T39	OCT: Performs routine maintence/equipment troubleshooting including: electronic components	266	16.88%	2.93	1.12
T40	OCT: Performs routine maintence/equipment troubleshooting including: cleing equipment	314	2.18%	3.90	1.03
T41	OCT: Performs routine maintence/equipment troubleshooting including: software maintence	301	5.94%	3.56	1.09
T42	OCT: Understands/applies scanning protocols: Retina: Macular thickness map/Radial Lines	314	2.18%	4.31	0.86
T43	OCT: Understands/applies scanning protocols: Retina: Fast macular thickness map	320	0.00%	4.45	0.78
T44	OCT: Understands/applies scanning protocols: Retina: Optic Disc/Fast Optic Disc	304	5.59%	3.81	1.17
T45	OCT: Understands/applies scanning protocols: Retina: RNFL thickness 3.4/Fast RNFL Thickness 3.4	306	4.08%	3.90	1.13
T46	OCT: Understands/applies scanning protocols: Retina: RNFL map/Fast RNFL map	301	5.94%	3.80	1.18
T47	OCT: Understands/applies scanning protocols: Retina: Nerve head circle	294	8.70%	3.39	1.27
T48	OCT: Understands/applies scanning protocols: Retina: Line	314	2.48%	4.15	0.99
T49	OCT: Understands/applies scanning protocols: Retina: Circle	276	13.75%	3.16	1.23

ID	Task Description	N	% NP	Mean IMP	Std.D
T50	OCT: Understands/applies scanning protocols: Retina: Raster Line	274	14.91%	3.12	1.18
T51	OCT: Understands/applies scanning protocols: Retina: Cross hair	304	5.59%	3.74	1.16
T52	OCT: Understands/applies scanning protocols: Retina: Radial lines	290	9.94%	3.56	1.20
T53	OCT: Understands/applies scanning protocols: Retina: Proportional circle	259	18.81%	2.86	1.17
T54	OCT: Understands/applies scanning protocols: Retina: Concentric three-rings	257	19.18%	2.80	1.20
T55	OCT: Understands/applies scanning protocols: Retina: X-line	271	15.84%	3.06	1.21
T56	OCT: Understands/applies scanning protocols: Retina: Custom Sc	296	7.79%	3.71	1.22
T57	OCT: Understands/applies scanning protocols: Retina: Repeat	293	7.57%	3.68	1.20
T58	OCT: Understands/applies scanning protocols: Glaucoma: Macular thickness map/Radial Lines	281	11.36%	3.45	1.30
T59	OCT: Understands/applies scanning protocols: Glaucoma: Fast macular thickness map	287	9.75%	3.73	1.22
T60	OCT: Understands/applies scanning protocols: Glaucoma: Optic Disc/Fast Optic Disc	294	7.55%	4.00	1.13
T61	OCT: Understands/applies scanning protocols: Glaucoma: RNFL thickness 3.4/Fast RNFL Thickness 3.4	296	6.62%	4.02	1.13
T62	OCT: Understands/applies scanning protocols: Glaucoma: RNFL map/Fast RNFL map	293	8.44%	3.93	1.16
T63	OCT: Understands/applies scanning protocols: Glaucoma: Nerve head circle	277	12.62%	3.48	1.23
T64	OCT: Understands/applies scanning protocols: Glaucoma: Line	263	17.55%	3.29	1.25
T65	OCT: Understands/applies scanning protocols: Glaucoma: Circle	250	21.38%	3.00	1.25
T66	OCT: Understands/applies scanning protocols: Glaucoma: Raster Line	243	23.34%	2.84	1.19
T67	OCT: Understands/applies scanning protocols: Glaucoma: Cross hair	251	21.32%	3.09	1.27
T68	OCT: Understands/applies scanning protocols: Glaucoma: Radial lines	249	21.70%	2.98	1.27
T69	OCT: Understands/applies scanning protocols: Glaucoma: Proportional circle	243	23.58%	2.86	1.22
T70	OCT: Understands/applies scanning protocols: Glaucoma: Concentric three-rings	242	22.93%	2.79	1.23
T71	OCT: Understands/applies scanning protocols: Glaucoma: X-line	243	24.30%	2.77	1.20
T72	OCT: Understands/applies scanning protocols: Glaucoma: Custom Sc	258	19.38%	3.23	1.32
T73	OCT: Understands/applies scanning protocols: Glaucoma: Repeat	273	13.88%	3.65	1.28
T74	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness	317	0.94%	4.29	0.86
T75	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Map	314	1.57%	4.30	0.86
T76	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume	311	2.51%	4.14	0.94
T77	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Tabular	304	5.00%	4.06	1.00
T78	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Change	308	3.14%	3.96	1.07
T79	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Tabular	273	14.42%	3.57	1.22
T80	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Change	275	12.97%	3.49	1.22
T81	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness	293	7.57%	3.96	1.12
T82	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Average	292	7.89%	3.99	1.12

ID	Task Description	N	% NP	Mean IMP	Std.D
T83	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Map	283	9.58%	3.87	1.13
T84	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Change	288	9.43%	3.81	1.14
T85	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Serial analysis	287	9.18%	3.90	1.15
T86	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Optic Nerve Head	290	8.23%	3.89	1.13
T87	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize	287	10.31%	3.60	1.19
T88	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Align	293	8.15%	3.76	1.09
T89	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize & Align	278	11.46%	3.62	1.17
T90	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Gaussi Smoothing	254	19.37%	2.92	1.18
T91	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Medi Smoothing	251	20.57%	2.94	1.18
T92	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Proportional	272	14.20%	3.36	1.26
T93	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Sc Profile	271	15.05%	3.30	1.23
T94	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize	256	19.24%	3.34	1.25
T95	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Align	254	19.62%	3.31	1.24
T96	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize & Align	248	20.51%	3.27	1.26
T97	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Gaussi Smoothing	235	24.92%	2.88	1.21
T98	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Medi Smoothing	236	25.55%	2.91	1.20
T99	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Proportional	241	23.00%	3.06	1.21
T100	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Sc Profile	245	21.97%	3.13	1.26
T101	OCT: Understands function/properties of following: Controls: Chin/Forehead rest	322	0.00%	4.57	0.70
T102	OCT: Understands function/properties of following: Controls: Table height	321	0.00%	4.57	0.70
T103	OCT: Understands function/properties of following: Controls: Internal fixation device	320	0.62%	4.60	0.70
T104	OCT: Understands function/properties of following: Controls: External fixation device	308	4.35%	4.10	1.19
T105	OCT: Understands function/properties of following: Controls: Focus knob	320	0.00%	4.59	0.70
T106	OCT: Understands function/properties of following: Controls: Video brightness	319	0.00%	4.28	0.85
T107	OCT: Understands function/properties of following: Controls: Video contrast	319	0.00%	4.21	0.88
T108	OCT: Understands function/properties of following: Controls: OCT Image noise	315	1.56%	4.25	0.85
T109	OCT: Understands function/properties of following: Controls: OCT Image rge	314	2.48%	4.23	0.88
T110	OCT: Understands function/properties of following: Controls: Line length	313	2.19%	4.29	0.94
T111	OCT: Understands function/properties of following: Controls: Line gle	314	1.88%	4.26	0.92

ID	Task Description	N	% NP	Mean IMP	Std.D
T112	OCT: Understands function/properties of following: z offset: Auto	311	2.81%	4.26	0.97
T113	OCT: Understands function/properties of following: z offset: Manual	305	4.98%	4.25	0.97
T114	OCT: Understands function/properties of following: z offset: Position/move patient module	295	3.91%	4.34	0.87
T115	OCT: Understands function/properties of following: Polarization: Auto	313	1.57%	4.43	0.83
T116	OCT: Understands function/properties of following: Polarization: Mual	305	4.09%	4.13	1.06
T117	OCT: Understands function/properties of following: Polarization: Resolution	314	1.26%	4.22	0.94
T118	OCT: Interpretation of OCT: Retina: False color scale	291	8.49%	3.71	1.07
T119	OCT: Interpretation of OCT: Retina: Center point	302	5.33%	3.85	1.07
T120	OCT: Interpretation of OCT: Retina: Center thickness measurement	309	2.52%	4.03	1.00
T121	OCT: Interpretation of OCT: Retina: Total macular volume	302	4.73%	3.77	1.06
T122	OCT: Interpretation of OCT: Retina: Retinal map	311	2.20%	4.09	0.99
T123	OCT: Interpretation of OCT: Retina: Measurement calipers	294	8.13%	3.67	1.09
T124	OCT: Interpretation of OCT: Retina: Shadowing	272	14.20%	3.46	1.10
T125	OCT: Interpretation of OCT: Retina: analysis artifacts/plotting errors/failures	294	7.55%	3.85	1.05
T126	OCT: Interpretation of OCT: Retina: Signal strength	312	2.80%	4.10	0.97
T127	OCT: Interpretation of OCT: Retina: +/- Center deviation	298	5.99%	3.78	1.05
T128	OCT: Interpretation of OCT: Retina: Signal-to-noise ratio	299	6.27%	3.61	1.04
T129	OCT: Interpretation of OCT: Retina: Accepted A-Sc%	284	10.41%	3.51	1.11
T130	OCT: Interpretation of OCT: Optic Nerve: False color scale	269	14.06%	3.47	1.19
T131	OCT: Interpretation of OCT: Optic Nerve: Disc reference points	275	12.42%	3.64	1.15
T132	OCT: Interpretation of OCT: Optic Nerve: Surface sensitivity	262	15.48%	3.40	1.14
T133	OCT: Interpretation of OCT: Optic Nerve: Disc area	282	9.32%	3.67	1.15
T134	OCT: Interpretation of OCT: Optic Nerve: Cup area	282	9.32%	3.70	1.16
T135	OCT: Interpretation of OCT: Optic Nerve: Rim area	279	10.29%	3.63	1.16
T136	OCT: Interpretation of OCT: Optic Nerve: Cup/disc area ratio	285	9.24%	3.70	1.15
T137	OCT: Interpretation of OCT: Optic Nerve: Cup/disc horizontal ratio	281	10.22%	3.58	1.15
T138	OCT: Interpretation of OCT: Optic Nerve: Cup/disc vertical ratio	280	10.26%	3.57	1.14
T139	OCT: Interpretation of OCT: Optic Nerve: analysis artifacts	273	12.22%	3.69	1.14
T140	OCT: Interpretation of OCT: Optic Nerve: Save current result	283	9.29%	3.89	1.17
T141	OCT: Interpretation of OCT: Troubleshooting: Vibration	299	5.38%	3.85	1.10
T142	OCT: Interpretation of OCT: Troubleshooting: Printer maintenance	314	0.95%	3.97	1.07
T143	OCT: Interpretation of OCT: Troubleshooting: Patient tear film	311	1.89%	4.25	0.90
T144	OCT: Interpretation of OCT: Troubleshooting: Cle lens	315	0.32%	4.48	0.78
T145	OCT: Interpretation of OCT: Troubleshooting: IOL	311	2.20%	3.99	0.95
T146	OCT: Interpretation of OCT: Troubleshooting: Dilation	313	0.63%	4.17	0.92
T147	OCT: Interpretation of OCT: Troubleshooting: Media opacities	315	0.32%	4.28	0.89
T148	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment structures	195	33.90%	3.79	1.20
T149	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment Idmarks/terminology	195	33.67%	3.82	1.19
T150	OCT: Anterior Chamber OCT: Demonstrates understanding of layers of cornea	190	35.15%	3.63	1.19
T151	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber depth	173	40.55%	3.46	1.26
T152	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber gles	173	40.55%	3.44	1.28
T153	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber diameter	170	40.97%	3.35	1.29

ID	Task Description	N	% NP	Mean IMP	Std.D
T154	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure flap thickness	164	42.86%	3.29	1.27
T155	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure stromal thickness	165	42.11%	3.29	1.28
T156	Data/Image Magement: Storage utilization	310	1.90%	4.13	0.95
T157	Data/Image Magement: Orgizes archival system	310	2.21%	4.12	0.97
T158	Data/Image Magement: Coordinates network file trsfers for archiving/patient data base systems	294	6.37%	3.96	1.04
T159	Data/Image Magement: Exports Images/data: to CD /DVD-Ram	299	5.97%	4.06	1.05
T160	Data/Image Magement: Exports Images/data: to external USB device	275	13.52%	3.81	1.18
T161	Data/Image Magement: Exports Images/data: floppy	240	24.05%	3.30	1.30
T162	Data/Image Magement: Exports Images/data: Networks OCT	243	22.12%	3.51	1.31
T163	Patient/Operator Safety: Adheres to Universal Precautions as defined by Centers for Disease Control/Prevention (CDC)	313	1.26%	4.40	0.91
T164	Patient/Operator Safety: Observes Occupational Safety/Health Administration (OSHA)/National Institute for Occupational Safety/Health (NIOSH) regulations relating to OCT	314	0.95%	4.37	0.90
T165	Patient/Operator Safety: Understands HIPAA confidentially/privacy regulations relating to OCT	314	0.95%	4.52	0.81

## APPENDIX G

### Tasks Sorted by Percent Not Performing

ID	Task Description	N	% NP	Mean IMP	Std.D
T154	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure flap thickness	164	42.86%	3.29	1.27
T155	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure stromal thickness	165	42.11%	3.29	1.28
T153	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber diameter	170	40.97%	3.35	1.29
T151	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber depth	173	40.55%	3.46	1.26
T152	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber gles	173	40.55%	3.44	1.28
T150	OCT: Anterior Chamber OCT: Demonstrates understanding of layers of cornea	190	35.15%	3.63	1.19
T148	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment structures	195	33.90%	3.79	1.20
T149	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment Idmarks/terminology	195	33.67%	3.82	1.19
T98	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Medi Smoothing	236	25.55%	2.91	1.20
T97	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Gaussi Smoothing	235	24.92%	2.88	1.21
T71	OCT: Understands/applies scanning protocols: Glaucoma: X-line	243	24.30%	2.77	1.20
T161	Data/Image Magement: Exports Images/data: floppy	240	24.05%	3.30	1.30
T69	OCT: Understands/applies scanning protocols: Glaucoma: Proportional circle	243	23.58%	2.86	1.22
T66	OCT: Understands/applies scanning protocols: Glaucoma: Raster Line	243	23.34%	2.84	1.19
T99	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Proportional	241	23.00%	3.06	1.21
T70	OCT: Understands/applies scanning protocols: Glaucoma: Concentric three-rings	242	22.93%	2.79	1.23
T162	Data/Image Magement: Exports Images/data: Networks OCT	243	22.12%	3.51	1.31
T100	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Sc Profile	245	21.97%	3.13	1.26
T68	OCT: Understands/applies scanning protocols: Glaucoma: Radial lines	249	21.70%	2.98	1.27
T65	OCT: Understands/applies scanning protocols: Glaucoma: Circle	250	21.38%	3.00	1.25
T67	OCT: Understands/applies scanning protocols: Glaucoma: Cross hair	251	21.32%	3.09	1.27
T91	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Medi Smoothing	251	20.57%	2.94	1.18
T96	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize & Align	248	20.51%	3.27	1.26
T95	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Align	254	19.62%	3.31	1.24
T72	OCT: Understands/applies scanning protocols: Glaucoma: Custom Sc	258	19.38%	3.23	1.32
T90	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Gaussi Smoothing	254	19.37%	2.92	1.18
T94	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize	256	19.24%	3.34	1.25
T54	OCT: Understands/applies scanning protocols: Retina: Concentric three-rings	257	19.18%	2.80	1.20

ID	Task Description	N	% NP	Mean IMP	Std.D
T53	OCT: Understands/applies scanning protocols: Retina: Proportional circle	259	18.81%	2.86	1.17
T64	OCT: Understands/applies scanning protocols: Glaucoma: Line	263	17.55%	3.29	1.25
T39	OCT: Performs routine maintenance/equipment troubleshooting including: electronic components	266	16.88%	2.93	1.12
T55	OCT: Understands/applies scanning protocols: Retina: X-line	271	15.84%	3.06	1.21
T132	OCT: Interpretation of OCT: Optic Nerve: Surface sensitivity	262	15.48%	3.40	1.14
T93	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Sc Profile	271	15.05%	3.30	1.23
T50	OCT: Understands/applies scanning protocols: Retina: Raster Line	274	14.91%	3.12	1.18
T79	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Tabular	273	14.42%	3.57	1.22
T92	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Proportional	272	14.20%	3.36	1.26
T124	OCT: Interpretation of OCT: Retina: Shadowing	272	14.20%	3.46	1.10
T130	OCT: Interpretation of OCT: Optic Nerve: False color scale	269	14.06%	3.47	1.19
T73	OCT: Understands/applies scanning protocols: Glaucoma: Repeat	273	13.88%	3.65	1.28
T49	OCT: Understands/applies scanning protocols: Retina: Circle	276	13.75%	3.16	1.23
T160	Data/Image Magement: Exports Images/data: to external USB device	275	13.52%	3.81	1.18
T80	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Change	275	12.97%	3.49	1.22
T63	OCT: Understands/applies scanning protocols: Glaucoma: Nerve head circle	277	12.62%	3.48	1.23
T131	OCT: Interpretation of OCT: Optic Nerve: Disc reference points	275	12.42%	3.64	1.15
T139	OCT: Interpretation of OCT: Optic Nerve: analysis artifacts	273	12.22%	3.69	1.14
T89	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize & Align	278	11.46%	3.62	1.17
T58	OCT: Understands/applies scanning protocols: Glaucoma: Macular thickness map/Radial Lines	281	11.36%	3.45	1.30
T129	OCT: Interpretation of OCT: Retina: Accepted A-Sc%	284	10.41%	3.51	1.11
T87	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize	287	10.31%	3.60	1.19
T135	OCT: Interpretation of OCT: Optic Nerve: Rim area	279	10.29%	3.63	1.16
T138	OCT: Interpretation of OCT: Optic Nerve: Cup/disc vertical ratio	280	10.26%	3.57	1.14
T137	OCT: Interpretation of OCT: Optic Nerve: Cup/disc horizontal ratio	281	10.22%	3.58	1.15
T52	OCT: Understands/applies scanning protocols: Retina: Radial lines	290	9.94%	3.56	1.20
T59	OCT: Understands/applies scanning protocols: Glaucoma: Fast macular thickness map	287	9.75%	3.73	1.22
T83	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Map	283	9.58%	3.87	1.13
T84	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Change	288	9.43%	3.81	1.14
T133	OCT: Interpretation of OCT: Optic Nerve: Disc area	282	9.32%	3.67	1.15
T134	OCT: Interpretation of OCT: Optic Nerve: Cup area	282	9.32%	3.70	1.16
T140	OCT: Interpretation of OCT: Optic Nerve: Save current result	283	9.29%	3.89	1.17
T136	OCT: Interpretation of OCT: Optic Nerve: Cup/disc area ratio	285	9.24%	3.70	1.15
T85	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Serial analysis	287	9.18%	3.90	1.15
T47	OCT: Understands/applies scanning protocols: Retina: Nerve head circle	294	8.70%	3.39	1.27
T118	OCT: Interpretation of OCT: Retina: False color scale	291	8.49%	3.71	1.07

ID	Task Description	N	% NP	Mean IMP	Std.D
T62	OCT: Understands/applies scanning protocols: Glaucoma: RNFL map/Fast RNFL map	293	8.44%	3.93	1.16
T86	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Optic Nerve Head	290	8.23%	3.89	1.13
T88	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Align	293	8.15%	3.76	1.09
T123	OCT: Interpretation of OCT: Retina: Measurement calipers	294	8.13%	3.67	1.09
T82	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Average	292	7.89%	3.99	1.12
T56	OCT: Understands/applies scanning protocols: Retina: Custom Sc	296	7.79%	3.71	1.22
T57	OCT: Understands/applies scanning protocols: Retina: Repeat	293	7.57%	3.68	1.20
T81	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness	293	7.57%	3.96	1.12
T60	OCT: Understands/applies scanning protocols: Glaucoma: Optic Disc/Fast Optic Disc	294	7.55%	4.00	1.13
T125	OCT: Interpretation of OCT: Retina: analysis artifacts/plotting errors/failures	294	7.55%	3.85	1.05
T61	OCT: Understands/applies scanning protocols: Glaucoma: RNFL thickness 3.4/Fast RNFL Thickness 3.4	296	6.62%	4.02	1.13
T35	OCT: Understands function/components of OCT machine including: time of flight delay/interferometry	303	6.48%	2.73	1.05
T158	Data/Image Magement: Coordinates network file trsfers for archiving/patient data base systems	294	6.37%	3.96	1.04
T128	OCT: Interpretation of OCT: Retina: Signal-to-noise ratio	299	6.27%	3.61	1.04
T127	OCT: Interpretation of OCT: Retina: +/- Center deviation	298	5.99%	3.78	1.05
T159	Data/Image Magement: Exports Images/data: to CD /DVD-Ram	299	5.97%	4.06	1.05
T41	OCT: Performs routine maintence/equipment troubleshooting including: software maintence	301	5.94%	3.56	1.09
T46	OCT: Understands/applies scanning protocols: Retina: RNFL map/Fast RNFL map	301	5.94%	3.80	1.18
T44	OCT: Understands/applies scanning protocols: Retina: Optic Disc/Fast Optic Disc	304	5.59%	3.81	1.17
T51	OCT: Understands/applies scanning protocols: Retina: Cross hair	304	5.59%	3.74	1.16
T141	OCT: Interpretation of OCT: Troubleshooting: Vibration	299	5.38%	3.85	1.10
T119	OCT: Interpretation of OCT: Retina: Center point	302	5.33%	3.85	1.07
T77	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Tabular	304	5.00%	4.06	1.00
T113	OCT: Understands function/properties of following: z offset: Manual	305	4.98%	4.25	0.97
T31	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: medical/surgical history	307	4.95%	3.53	1.16
T121	OCT: Interpretation of OCT: Retina: Total macular volume	302	4.73%	3.77	1.06
T34	OCT: Understands function/components of OCT machine including: wavelength of laser	309	4.63%	2.85	1.06
T26	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Asteroid Hyalosis/Vitreous Hemorrhage	306	4.38%	3.54	1.13
T104	OCT: Understands function/properties of following: Controls: External fixation device	308	4.35%	4.10	1.19
T116	OCT: Understands function/properties of following: Polarization: Mual	305	4.09%	4.13	1.06
T45	OCT: Understands/applies scanning protocols: Retina: RNFL thickness 3.4/Fast RNFL Thickness 3.4	306	4.08%	3.90	1.13



ID	Task Description	N	% NP	Mean IMP	Std.D
T32	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: ocular history	310	4.02%	3.84	1.10
T114	OCT: Understands function/properties of following: z offset: Position/move patient module	295	3.91%	4.34	0.87
T13	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: glaucoma	311	3.42%	3.64	1.09
T78	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Change	308	3.14%	3.96	1.07
T24	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Venous/Arterial Occlusions	311	2.81%	3.55	1.15
T112	OCT: Understands function/properties of following: z offset: Auto	311	2.81%	4.26	0.97
T21	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen, ONH	312	2.80%	3.51	1.11
T33	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: photographic history	312	2.80%	3.73	1.08
T126	OCT: Interpretation of OCT: Retina: Signal strength	312	2.80%	4.10	0.97
T120	OCT: Interpretation of OCT: Retina: Center thickness measurement	309	2.52%	4.03	1.00
T23	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal nerve fiber layer defects	311	2.51%	3.69	1.07
T76	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume	311	2.51%	4.14	0.94
T22	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pathologic myopia	312	2.50%	3.40	1.12
T25	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Tumors/Nevi	313	2.49%	3.67	1.10
T48	OCT: Understands/applies scanning protocols: Retina: Line	314	2.48%	4.15	0.99
T109	OCT: Understands function/properties of following: Controls: OCT Image rge	314	2.48%	4.23	0.88
T157	Data/Image Magement: Orgizes archival system	310	2.21%	4.12	0.97
T122	OCT: Interpretation of OCT: Retina: Retinal map	311	2.20%	4.09	0.99
T145	OCT: Interpretation of OCT: Troubleshooting: IOL	311	2.20%	3.99	0.95
T110	OCT: Understands function/properties of following: Controls: Line length	313	2.19%	4.29	0.94
T40	OCT: Performs routine maintence/equipment troubleshooting including: cleing equipment	314	2.18%	3.90	1.03
T42	OCT: Understands/applies scanning protocols: Retina: Macular thickness map/Radial Lines	314	2.18%	4.31	0.86
T156	Data/Image Magement: Storage utilization	310	1.90%	4.13	0.95
T143	OCT: Interpretation of OCT: Troubleshooting: Patient tear film	311	1.89%	4.25	0.90
T20	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen/ hard/soft exudates	314	1.88%	3.64	1.02
T111	OCT: Understands function/properties of following: Controls: Line gle	314	1.88%	4.26	0.92
T14	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: papilledema/optic pit	315	1.87%	3.60	1.11
T6	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: optic nerve disorders	320	1.84%	3.68	1.02
T17	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: posterior vitreous detachment/weiss ring	313	1.57%	3.73	1.05
T115	OCT: Understands function/properties of following: Polarization: Auto	313	1.57%	4.43	0.83

ID	Task Description	N	% NP	Mean IMP	Std.D
T75	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Map	314	1.57%	4.30	0.86
T108	OCT: Understands function/properties of following: Controls: OCT Image noise	315	1.56%	4.25	0.85
T163	Patient/Operator Safety: Adheres to Universal Precautions as defined by Centers for Disease Control/Prevention (CDC)	313	1.26%	4.40	0.91
T117	OCT: Understands function/properties of following: Polarization: Resolution	314	1.26%	4.22	0.94
T7	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: systemic diseases	320	1.23%	3.32	1.05
T37	OCT: Understands function/components of OCT machine including: working dist	320	1.23%	3.84	1.06
T3	Applies Principles of anatomy of Eye: Demonstrates understanding of Optic Nerve atomy	324	1.22%	3.87	0.99
T142	OCT: Interpretation of OCT: Troubleshooting: Printer maintence	314	0.95%	3.97	1.07
T164	Patient/Operator Safety: Observes Occupational Safety/Health Administration (OSHA)/National Institute for Occupational Safety/Health (NIOSH) regulations relating to OCT	314	0.95%	4.37	0.90
T165	Patient/Operator Safety: Understands HIPAA confidentially/privacy regulations relating to OCT	314	0.95%	4.52	0.81
T19	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal detachment/retinoschisis	316	0.94%	3.84	1.10
T74	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness	317	0.94%	4.29	0.86
T146	OCT: Interpretation of OCT: Troubleshooting: Dilation	313	0.63%	4.17	0.92
T103	OCT: Understands function/properties of following: Controls: Internal fixation device	320	0.62%	4.60	0.70
T36	OCT: Understands function/components of OCT machine including: limitations of machine	322	0.62%	3.85	1.03
T1	Applies Principles of anatomy of Eye: Demonstrates understanding of Anterior/posterior segment structures	325	0.61%	4.20	0.94
T144	OCT: Interpretation of OCT: Troubleshooting: Cle lens	315	0.32%	4.48	0.78
T147	OCT: Interpretation of OCT: Troubleshooting: Media opacities	315	0.32%	4.28	0.89
T18	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pigment epilial detachment	317	0.31%	4.03	0.99
T27	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Informs patient of procedures to be performed.	321	0.31%	4.43	0.78
T12	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal holes: pseudo/lamellar/full thickness	322	0.31%	4.31	0.85
T28	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: swers patient questions concerning procedure	322	0.31%	4.39	0.78
T38	OCT: Understands function/components of OCT machine including: resolution	322	0.31%	3.80	1.02
T2	Applies Principles of anatomy of Eye: Demonstrates understanding of layers of retina	328	0.00%	4.11	0.98
T4	Applies Principles of anatomy of Eye: Demonstrates understanding of anatomical Idmarks/terminology	327	0.00%	4.42	0.76
T5	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: retinal diseases	326	0.00%	4.20	0.84
T8	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: diabetic retinopathy/macular edema	323	0.00%	4.22	0.88
T9	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: macular degeneration/choroidal neovascular membrane	325	0.00%	4.19	0.89

ID	Task Description	N	% NP	Mean IMP	Std.D
T10	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: central serous retinopathy/subretinal fluid	322	0.00%	4.17	0.91
T11	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: cystoid macular edema/diffuse macular edema	325	0.00%	4.24	0.86
T15	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: epiretinal membrane	321	0.00%	4.20	0.88
T16	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: vitreomacular traction	322	0.00%	4.08	0.95
T29	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes fixation	323	0.00%	4.67	0.62
T30	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Elicits cooperation from uncooperative or physically disabled patients	322	0.00%	4.45	0.83
T43	OCT: Understands/applies scanning protocols: Retina: Fast macular thickness map	320	0.00%	4.45	0.78
T101	OCT: Understands function/properties of following: Controls: Chin/Forehead rest	322	0.00%	4.57	0.70
T102	OCT: Understands function/properties of following: Controls: Table height	321	0.00%	4.57	0.70
T105	OCT: Understands function/properties of following: Controls: Focus knob	320	0.00%	4.59	0.70
T106	OCT: Understands function/properties of following: Controls: Video brightness	319	0.00%	4.28	0.85
T107	OCT: Understands function/properties of following: Controls: Video contrast	319	0.00%	4.21	0.88

## APPENDIX H

### Tasks Sorted by Mean Importance

ID	Task Description	N	% NP	Mean IMP	Std.D
T35	OCT: Understands function/components of OCT machine including: time of flight delay/interferometry	303	6.48%	2.73	1.05
T71	OCT: Understands/applies scanning protocols: Glaucoma: X-line	243	24.30%	2.77	1.20
T70	OCT: Understands/applies scanning protocols: Glaucoma: Concentric three-rings	242	22.93%	2.79	1.23
T54	OCT: Understands/applies scanning protocols: Retina: Concentric three-rings	257	19.18%	2.80	1.20
T66	OCT: Understands/applies scanning protocols: Glaucoma: Raster Line	243	23.34%	2.84	1.19
T34	OCT: Understands function/components of OCT machine including: wavelength of laser	309	4.63%	2.85	1.06
T69	OCT: Understands/applies scanning protocols: Glaucoma: Proportional circle	243	23.58%	2.86	1.22
T53	OCT: Understands/applies scanning protocols: Retina: Proportional circle	259	18.81%	2.86	1.17
T97	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Gaussi Smoothing	235	24.92%	2.88	1.21
T98	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Medi Smoothing	236	25.55%	2.91	1.20
T90	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Gaussi Smoothing	254	19.37%	2.92	1.18
T39	OCT: Performs routine maintenance/equipment troubleshooting including: electronic components	266	16.88%	2.93	1.12
T91	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Medi Smoothing	251	20.57%	2.94	1.18
T68	OCT: Understands/applies scanning protocols: Glaucoma: Radial lines	249	21.70%	2.98	1.27
T65	OCT: Understands/applies scanning protocols: Glaucoma: Circle	250	21.38%	3.00	1.25
T55	OCT: Understands/applies scanning protocols: Retina: X-line	271	15.84%	3.06	1.21
T99	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Proportional	241	23.00%	3.06	1.21
T67	OCT: Understands/applies scanning protocols: Glaucoma: Cross hair	251	21.32%	3.09	1.27
T50	OCT: Understands/applies scanning protocols: Retina: Raster Line	274	14.91%	3.12	1.18
T100	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Sc Profile	245	21.97%	3.13	1.26
T49	OCT: Understands/applies scanning protocols: Retina: Circle	276	13.75%	3.16	1.23
T72	OCT: Understands/applies scanning protocols: Glaucoma: Custom Sc	258	19.38%	3.23	1.32
T96	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize & Align	248	20.51%	3.27	1.26
T64	OCT: Understands/applies scanning protocols: Glaucoma: Line	263	17.55%	3.29	1.25
T155	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure stromal thickness	165	42.11%	3.29	1.28
T154	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure flap thickness	164	42.86%	3.29	1.27
T93	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Sc Profile	271	15.05%	3.30	1.23
T161	Data/Image Magement: Exports Images/data: floppy	240	24.05%	3.30	1.30
T95	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Align	254	19.62%	3.31	1.24
T7	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: systemic diseases	320	1.23%	3.32	1.05

ID	Task Description	N	% NP	Mean IMP	Std.D
T94	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize	256	19.24%	3.34	1.25
T153	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber diameter	170	40.97%	3.35	1.29
T92	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Proportional	272	14.20%	3.36	1.26
T47	OCT: Understands/applies scanning protocols: Retina: Nerve head circle	294	8.70%	3.39	1.27
T132	OCT: Interpretation of OCT: Optic Nerve: Surface sensitivity	262	15.48%	3.40	1.14
T22	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pathologic myopia	312	2.50%	3.40	1.12
T152	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber gles	173	40.55%	3.44	1.28
T58	OCT: Understands/applies scanning protocols: Glaucoma: Macular thickness map/Radial Lines	281	11.36%	3.45	1.30
T151	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber depth	173	40.55%	3.46	1.26
T124	OCT: Interpretation of OCT: Retina: Shadowing	272	14.20%	3.46	1.10
T130	OCT: Interpretation of OCT: Optic Nerve: False color scale	269	14.06%	3.47	1.19
T63	OCT: Understands/applies scanning protocols: Glaucoma: Nerve head circle	277	12.62%	3.48	1.23
T80	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Change	275	12.97%	3.49	1.22
T162	Data/Image Magement: Exports Images/data: Networks OCT	243	22.12%	3.51	1.31
T21	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen, ONH	312	2.80%	3.51	1.11
T129	OCT: Interpretation of OCT: Retina: Accepted A-Sc%	284	10.41%	3.51	1.11
T31	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: medical/surgical history	307	4.95%	3.53	1.16
T26	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Asteroid Hyalosis/Vitreous Hemorrhage	306	4.38%	3.54	1.13
T24	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Venous/Arterial Occlusions	311	2.81%	3.55	1.15
T52	OCT: Understands/applies scanning protocols: Retina: Radial lines	290	9.94%	3.56	1.20
T41	OCT: Performs routine maintence/equipment troubleshooting including: software maintence	301	5.94%	3.56	1.09
T138	OCT: Interpretation of OCT: Optic Nerve: Cup/disc vertical ratio	280	10.26%	3.57	1.14
T79	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Tabular	273	14.42%	3.57	1.22
T137	OCT: Interpretation of OCT: Optic Nerve: Cup/disc horizontal ratio	281	10.22%	3.58	1.15
T87	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize	287	10.31%	3.60	1.19
T14	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: papilledema/optic pit	315	1.87%	3.60	1.11
T128	OCT: Interpretation of OCT: Retina: Signal-to-noise ratio	299	6.27%	3.61	1.04
T89	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize & Align	278	11.46%	3.62	1.17
T135	OCT: Interpretation of OCT: Optic Nerve: Rim area	279	10.29%	3.63	1.16
T150	OCT: Anterior Chamber OCT: Demonstrates understanding of layers of cornea	190	35.15%	3.63	1.19

ID	Task Description	N	% NP	Mean IMP	Std.D
T13	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: glaucoma	311	3.42%	3.64	1.09
T131	OCT: Interpretation of OCT: Optic Nerve: Disc reference points	275	12.42%	3.64	1.15
T20	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen/ hard/soft exudates	314	1.88%	3.64	1.02
T73	OCT: Understands/applies scanning protocols: Glaucoma: Repeat	273	13.88%	3.65	1.28
T123	OCT: Interpretation of OCT: Retina: Measurement calipers	294	8.13%	3.67	1.09
T133	OCT: Interpretation of OCT: Optic Nerve: Disc area	282	9.32%	3.67	1.15
T25	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Tumors/Nevi	313	2.49%	3.67	1.10
T57	OCT: Understands/applies scanning protocols: Retina: Repeat	293	7.57%	3.68	1.20
T6	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: optic nerve disorders	320	1.84%	3.68	1.02
T23	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal nerve fiber layer defects	311	2.51%	3.69	1.07
T139	OCT: Interpretation of OCT: Optic Nerve: analysis artifacts	273	12.22%	3.69	1.14
T134	OCT: Interpretation of OCT: Optic Nerve: Cup area	282	9.32%	3.70	1.16
T136	OCT: Interpretation of OCT: Optic Nerve: Cup/disc area ratio	285	9.24%	3.70	1.15
T56	OCT: Understands/applies scanning protocols: Retina: Custom Sc	296	7.79%	3.71	1.22
T118	OCT: Interpretation of OCT: Retina: False color scale	291	8.49%	3.71	1.07
T33	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: photographic history	312	2.80%	3.73	1.08
T59	OCT: Understands/applies scanning protocols: Glaucoma: Fast macular thickness map	287	9.75%	3.73	1.22
T17	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: posterior vitreous detachment/weiss ring	313	1.57%	3.73	1.05
T51	OCT: Understands/applies scanning protocols: Retina: Cross hair	304	5.59%	3.74	1.16
T88	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Align	293	8.15%	3.76	1.09
T121	OCT: Interpretation of OCT: Retina: Total macular volume	302	4.73%	3.77	1.06
T127	OCT: Interpretation of OCT: Retina: +/- Center deviation	298	5.99%	3.78	1.05
T148	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment structures	195	33.90%	3.79	1.20
T46	OCT: Understands/applies scanning protocols: Retina: RNFL map/Fast RNFL map	301	5.94%	3.80	1.18
T38	OCT: Understands function/components of OCT machine including: resolution	322	0.31%	3.80	1.02
T84	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Change	288	9.43%	3.81	1.14
T44	OCT: Understands/applies scanning protocols: Retina: Optic Disc/Fast Optic Disc	304	5.59%	3.81	1.17
T160	Data/Image Magement: Exports Images/data: to external USB device	275	13.52%	3.81	1.18
T149	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment Idmarks/terminology	195	33.67%	3.82	1.19
T37	OCT: Understands function/components of OCT machine including: working dist	320	1.23%	3.84	1.06
T32	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: ocular history	310	4.02%	3.84	1.10
T19	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal detachment/retinoschisis	316	0.94%	3.84	1.10

ID	Task Description	N	% NP	Mean IMP	Std.D
T36	OCT: Understands function/components of OCT machine including: limitations of machine	322	0.62%	3.85	1.03
T141	OCT: Interpretation of OCT: Troubleshooting: Vibration	299	5.38%	3.85	1.10
T125	OCT: Interpretation of OCT: Retina: analysis artifacts/plotting errors/failures	294	7.55%	3.85	1.05
T119	OCT: Interpretation of OCT: Retina: Center point	302	5.33%	3.85	1.07
T3	Applies Principles of anatomy of Eye: Demonstrates understanding of Optic Nerve atomy	324	1.22%	3.87	0.99
T83	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Map	283	9.58%	3.87	1.13
T140	OCT: Interpretation of OCT: Optic Nerve: Save current result	283	9.29%	3.89	1.17
T86	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Optic Nerve Head	290	8.23%	3.89	1.13
T40	OCT: Performs routine maintence/equipment troubleshooting including: cleing equipment	314	2.18%	3.90	1.03
T45	OCT: Understands/applies scanning protocols: Retina: RNFL thickness 3.4/Fast RNFL Thickness 3.4	306	4.08%	3.90	1.13
T85	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Serial analysis	287	9.18%	3.90	1.15
T62	OCT: Understands/applies scanning protocols: Glaucoma: RNFL map/Fast RNFL map	293	8.44%	3.93	1.16
T78	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Change	308	3.14%	3.96	1.07
T81	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness	293	7.57%	3.96	1.12
T158	Data/Image Magement: Coordinates network file trsfers for archiving/patient data base systems	294	6.37%	3.96	1.04
T142	OCT: Interpretation of OCT: Troubleshooting: Printer maintence	314	0.95%	3.97	1.07
T82	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Average	292	7.89%	3.99	1.12
T145	OCT: Interpretation of OCT: Troubleshooting: IOL	311	2.20%	3.99	0.95
T60	OCT: Understands/applies scanning protocols: Glaucoma: Optic Disc/Fast Optic Disc	294	7.55%	4.00	1.13
T61	OCT: Understands/applies scanning protocols: Glaucoma: RNFL thickness 3.4/Fast RNFL Thickness 3.4	296	6.62%	4.02	1.13
T18	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pigment epilial detachment	317	0.31%	4.03	0.99
T120	OCT: Interpretation of OCT: Retina: Center thickness measurement	309	2.52%	4.03	1.00
T77	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Tabular	304	5.00%	4.06	1.00
T159	Data/Image Magement: Exports Images/data: to CD /DVD-Ram	299	5.97%	4.06	1.05
T16	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: vitreomacular traction	322	0.00%	4.08	0.95
T122	OCT: Interpretation of OCT: Retina: Retinal map	311	2.20%	4.09	0.99
T126	OCT: Interpretation of OCT: Retina: Signal strength	312	2.80%	4.10	0.97
T104	OCT: Understands function/properties of following: Controls: External fixation device	308	4.35%	4.10	1.19
T2	Applies Principles of anatomy of Eye: Demonstrates understanding of layers of retina	328	0.00%	4.11	0.98
T157	Data/Image Magement: Orgizes archival system	310	2.21%	4.12	0.97

ID	Task Description	N	% NP	Mean IMP	Std.D
T156	Data/Image Magement: Storage utilization	310	1.90%	4.13	0.95
T116	OCT: Understands function/properties of following: Polarization: Mual	305	4.09%	4.13	1.06
T76	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume	311	2.51%	4.14	0.94
T48	OCT: Understands/applies scanning protocols: Retina: Line	314	2.48%	4.15	0.99
T10	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: central serous retinopathy/subretinal fluid	322	0.00%	4.17	0.91
T146	OCT: Interpretation of OCT: Troubleshooting: Dilation	313	0.63%	4.17	0.92
T9	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: macular degeneration/choroidal neovascular membrane	325	0.00%	4.19	0.89
T15	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: epiretinal membrane	321	0.00%	4.20	0.88
T5	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: retinal diseases	326	0.00%	4.20	0.84
T1	Applies Principles of anatomy of Eye: Demonstrates understanding of Anterior/posterior segment structures	325	0.61%	4.20	0.94
T107	OCT: Understands function/properties of following: Controls: Video contrast	319	0.00%	4.21	0.88
T8	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: diabetic retinopathy/macular edema	323	0.00%	4.22	0.88
T117	OCT: Understands function/properties of following: Polarization: Resolution	314	1.26%	4.22	0.94
T109	OCT: Understands function/properties of following: Controls: OCT Image rge	314	2.48%	4.23	0.88
T11	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: cystoid macular edema/diffuse macular edema	325	0.00%	4.24	0.86
T108	OCT: Understands function/properties of following: Controls: OCT Image noise	315	1.56%	4.25	0.85
T143	OCT: Interpretation of OCT: Troubleshooting: Patient tear film	311	1.89%	4.25	0.90
T113	OCT: Understands function/properties of following: z offset: Manual	305	4.98%	4.25	0.97
T111	OCT: Understands function/properties of following: Controls: Line gle	314	1.88%	4.26	0.92
T112	OCT: Understands function/properties of following: z offset: Auto	311	2.81%	4.26	0.97
T147	OCT: Interpretation of OCT: Troubleshooting: Media opacities	315	0.32%	4.28	0.89
T106	OCT: Understands function/properties of following: Controls: Video brightness	319	0.00%	4.28	0.85
T74	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness	317	0.94%	4.29	0.86
T110	OCT: Understands function/properties of following: Controls: Line length	313	2.19%	4.29	0.94
T75	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Map	314	1.57%	4.30	0.86
T42	OCT: Understands/applies scanning protocols: Retina: Macular thickness map/Radial Lines	314	2.18%	4.31	0.86
T12	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal holes: pseudo/lamellar/full thickness	322	0.31%	4.31	0.85
T114	OCT: Understands function/properties of following: z offset: Position/move patient module	295	3.91%	4.34	0.87
T164	Patient/Operator Safety: Observes Occupational Safety/Health Administration (OSHA)/National Institute for Occupational Safety/Health (NIOSH) regulations relating to OCT	314	0.95%	4.37	0.90
T28	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: swers patient questions concerning procedure	322	0.31%	4.39	0.78
T163	Patient/Operator Safety: Adheres to Universal Precautions as defined by Centers for Disease Control/Prevention (CDC)	313	1.26%	4.40	0.91



ID	Task Description	N	% NP	Mean IMP	Std.D
T4	Applies Principles of anatomy of Eye: Demonstrates understanding of anatomical landmarks/terminology	327	0.00%	4.42	0.76
T115	OCT: Understands function/properties of following: Polarization: Auto	313	1.57%	4.43	0.83
T27	Applies Concepts of Pathology of Eye to OCT findings: Patient Management: Informs patient of procedures to be performed.	321	0.31%	4.43	0.78
T43	OCT: Understands/applies scanning protocols: Retina: Fast macular thickness map	320	0.00%	4.45	0.78
T30	Applies Concepts of Pathology of Eye to OCT findings: Patient Management: Elicits cooperation from uncooperative or physically disabled patients	322	0.00%	4.45	0.83
T144	OCT: Interpretation of OCT: Troubleshooting: Cle lens	315	0.32%	4.48	0.78
T165	Patient/Operator Safety: Understands HIPAA confidentiality/privacy regulations relating to OCT	314	0.95%	4.52	0.81
T101	OCT: Understands function/properties of following: Controls: Chin/Forehead rest	322	0.00%	4.57	0.70
T102	OCT: Understands function/properties of following: Controls: Table height	321	0.00%	4.57	0.70
T105	OCT: Understands function/properties of following: Controls: Focus knob	320	0.00%	4.59	0.70
T103	OCT: Understands function/properties of following: Controls: Internal fixation device	320	0.62%	4.60	0.70
T29	Applies Concepts of Pathology of Eye to OCT findings: Patient Management: Establishes fixation	323	0.00%	4.67	0.62

## APPENDIX I

### Subgroup Analysis by Years Experience

ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T1	Applies Principles of anatomy of Eye: Demonstrates understanding of Anterior/posterior segment structures	80	4.06	1.01	139	4.21	0.91	104	4.29	0.91
T2	Applies Principles of anatomy of Eye: Demonstrates understanding of layers of retina	82	3.96	1.05	139	4.09	0.95	105	4.24	0.95
T3	Applies Principles of anatomy of Eye: Demonstrates understanding of Optic Nerve atomy	81	3.88	1.04	136	3.87	0.93	105	3.85	1.04
T4	Applies Principles of anatomy of Eye: Demonstrates understanding of anatomical Idmarks/terminology	81	4.32	0.83	139	4.44	0.75	105	4.46	0.72
T5	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: retinal diseases	81	3.98	0.91	139	4.24	0.79	105	4.32	0.84
T6	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: optic nerve disorders	79	3.71	1.04	136	3.65	0.98	104	3.73	1.06
T7	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: systemic diseases	80	3.14	1.04	135	3.41	1.07	104	3.36	0.99
T8	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: diabetic retinopathy/macular edema	81	3.99	1.03	137	4.27	0.74	105	4.33	0.88
T9	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: macular degeneration/choroidal neovascular membrane	81	3.96	1.02	139	4.24	0.78	105	4.30	0.90
T10	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: central serous retinopathy/subretinal fluid	81	3.98	1.02	138	4.22	0.81	103	4.24	0.91
T11	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: cystoid macular edema/diffuse macular edema	81	4.04	0.99	139	4.28	0.75	105	4.34	0.88
T12	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal holes: pseudo/lamellar/full thickness	81	4.14	0.95	138	4.37	0.76	103	4.36	0.90
T13	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: glaucoma	77	3.60	1.16	134	3.57	1.05	100	3.76	1.08
T14	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: papilledema/optic pit	79	3.47	1.13	133	3.58	1.06	103	3.73	1.14
T15	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: epiretinal membrane	80	3.96	1.00	139	4.21	0.81	102	4.36	0.83
T16	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: vitreomacular traction	80	3.80	1.06	139	4.10	0.90	103	4.26	0.89
T17	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: posterior vitreous detachment/weiss ring	76	3.70	1.05	134	3.69	1.04	103	3.82	1.07

ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T18	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pigment epithelial detachment	79	3.82	1.07	135	4.04	0.95	103	4.16	0.98
T19	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal detachment/retinoschisis	79	3.63	1.09	134	3.88	1.06	103	3.96	1.15
T20	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen/hard/soft exudates	80	3.40	1.07	133	3.68	0.93	101	3.78	1.05
T21	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen, ONH	78	3.37	1.08	133	3.56	1.08	101	3.54	1.17
T22	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pathologic myopia	78	3.10	1.17	132	3.45	1.05	102	3.57	1.14
T23	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal nerve fiber layer defects	77	3.64	1.19	135	3.68	0.97	99	3.74	1.11
T24	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Venous/Arterial Occlusions	77	3.22	1.19	134	3.64	1.06	100	3.67	1.20
T25	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Tumors/Nevi	78	3.35	1.18	135	3.80	1.06	100	3.76	1.06
T26	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Asteroid Hyalosis/Vitreous Hemorrhage	78	3.28	1.23	129	3.56	1.10	99	3.72	1.07
T27	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Informs patient of procedures to be performed.	79	4.32	0.91	138	4.53	0.71	104	4.39	0.74
T28	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: swers patient questions concerning procedure	79	4.30	0.84	138	4.46	0.72	105	4.36	0.82
T29	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes fixation	79	4.61	0.77	139	4.71	0.54	105	4.65	0.57
T30	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Elicits cooperation from uncooperative or physically disabled patients	78	4.32	0.99	139	4.45	0.84	105	4.54	0.67
T31	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: medical/surgical history	76	3.63	1.18	128	3.54	1.16	103	3.44	1.16
T32	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: ocular history	76	3.91	1.09	131	3.82	1.11	103	3.81	1.11
T33	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: photographic history	76	3.76	1.14	134	3.74	1.04	102	3.69	1.11
T34	OCT: Understands function/components of OCT machine including: wavelength of laser	74	2.92	1.18	132	2.83	1.06	103	2.83	0.98

ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T35	OCT: Understands function/components of OCT machine including: time of flight delay/interferometry	74	2.80	1.10	128	2.77	1.11	101	2.63	0.91
T36	OCT: Understands function/components of OCT machine including: limitations of machine	79	3.61	1.16	138	3.83	1.05	105	4.06	0.88
T37	OCT: Understands function/components of OCT machine including: working dist	79	3.80	1.19	136	3.80	1.02	105	3.91	1.00
T38	OCT: Understands function/components of OCT machine including: resolution	80	3.74	1.19	137	3.84	0.96	105	3.80	0.95
T39	OCT: Performs routine maintenance/equipment troubleshooting including: electronic components	66	2.83	1.09	111	3.01	1.19	89	2.91	1.07
T40	OCT: Performs routine maintenance/equipment troubleshooting including: cleing equipment	77	3.78	1.17	135	3.89	1.00	102	4.00	0.96
T41	OCT: Performs routine maintenance/equipment troubleshooting including: software maintence	75	3.31	1.14	127	3.65	1.08	99	3.66	1.04
T42	OCT: Understands/applies scanning protocols: Retina: Macular thickness map/Radial Lines	79	4.22	0.96	136	4.35	0.83	99	4.31	0.82
T43	OCT: Understands/applies scanning protocols: Retina: Fast macular thickness map	80	4.31	0.92	137	4.52	0.68	103	4.46	0.79
T44	OCT: Understands/applies scanning protocols: Retina: Optic Disc/Fast Optic Disc	75	3.81	1.27	132	3.78	1.15	97	3.85	1.13
T45	OCT: Understands/applies scanning protocols: Retina: RNFL thickness 3.4/Fast RNFL Thickness 3.4	75	3.80	1.26	131	3.96	1.00	100	3.89	1.18
T46	OCT: Understands/applies scanning protocols: Retina: RNFL map/Fast RNFL map	74	3.68	1.34	129	3.87	1.06	98	3.80	1.21
T47	OCT: Understands/applies scanning protocols: Retina: Nerve head circle	72	3.44	1.36	126	3.45	1.23	96	3.26	1.27
T48	OCT: Understands/applies scanning protocols: Retina: Line	77	4.00	1.04	135	4.21	0.96	102	4.17	1.00
T49	OCT: Understands/applies scanning protocols: Retina: Circle	71	3.32	1.33	116	3.18	1.14	89	2.99	1.25
T50	OCT: Understands/applies scanning protocols: Retina: Raster Line	68	3.25	1.18	119	3.05	1.13	87	3.10	1.27
T51	OCT: Understands/applies scanning protocols: Retina: Cross hair	76	3.46	1.18	129	3.76	1.14	99	3.93	1.13
T52	OCT: Understands/applies scanning protocols: Retina: Radial lines	71	3.46	1.29	121	3.55	1.15	98	3.62	1.21
T53	OCT: Understands/applies scanning protocols: Retina: Proportional circle	68	2.99	1.22	107	2.87	1.14	84	2.75	1.16
T54	OCT: Understands/applies scanning protocols: Retina: Concentric three-rings	67	2.97	1.23	110	2.79	1.16	80	2.68	1.23
T55	OCT: Understands/applies scanning protocols: Retina: X-line	68	3.06	1.24	111	3.08	1.19	92	3.02	1.23
T56	OCT: Understands/applies scanning protocols: Retina: Custom Sc	74	3.34	1.29	123	3.83	1.16	99	3.83	1.20
T57	OCT: Understands/applies scanning protocols: Retina: Repeat	74	3.58	1.28	122	3.66	1.18	97	3.78	1.17
T58	OCT: Understands/applies scanning protocols: Glaucoma: Macular thickness map/Radial Lines	69	3.52	1.32	124	3.36	1.30	88	3.52	1.29

ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T59	OCT: Understands/applies scanning protocols: Glaucoma: Fast macular thickness map	72	3.74	1.29	124	3.73	1.16	91	3.73	1.27
T60	OCT: Understands/applies scanning protocols: Glaucoma: Optic Disc/Fast Optic Disc	71	4.15	1.09	127	3.91	1.12	96	4.00	1.18
T61	OCT: Understands/applies scanning protocols: Glaucoma: RNFL thickness 3.4/Fast RNFL Thickness 3.4	71	3.97	1.17	127	4.00	1.09	98	4.09	1.16
T62	OCT: Understands/applies scanning protocols: Glaucoma: RNFL map/Fast RNFL map	71	4.01	1.15	125	3.88	1.13	97	3.94	1.21
T63	OCT: Understands/applies scanning protocols: Glaucoma: Nerve head circle	68	3.60	1.33	119	3.46	1.14	90	3.42	1.27
T64	OCT: Understands/applies scanning protocols: Glaucoma: Line	64	3.34	1.25	117	3.22	1.24	82	3.33	1.27
T65	OCT: Understands/applies scanning protocols: Glaucoma: Circle	61	3.26	1.26	108	2.94	1.22	81	2.89	1.28
T66	OCT: Understands/applies scanning protocols: Glaucoma: Raster Line	61	3.11	1.24	103	2.74	1.15	79	2.75	1.20
T67	OCT: Understands/applies scanning protocols: Glaucoma: Cross hair	63	3.11	1.31	109	3.06	1.26	79	3.11	1.25
T68	OCT: Understands/applies scanning protocols: Glaucoma: Radial lines	64	2.97	1.33	107	3.00	1.27	78	2.95	1.24
T69	OCT: Understands/applies scanning protocols: Glaucoma: Proportional circle	62	3.10	1.26	102	2.80	1.19	79	2.73	1.21
T70	OCT: Understands/applies scanning protocols: Glaucoma: Concentric three-rings	59	2.95	1.24	104	2.76	1.22	79	2.72	1.25
T71	OCT: Understands/applies scanning protocols: Glaucoma: X-line	62	2.92	1.28	104	2.68	1.19	77	2.77	1.13
T72	OCT: Understands/applies scanning protocols: Glaucoma: Custom Sc	64	3.22	1.25	111	3.18	1.34	83	3.31	1.35
T73	OCT: Understands/applies scanning protocols: Glaucoma: Repeat	65	3.62	1.31	119	3.61	1.25	89	3.73	1.32
T74	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness	79	4.15	0.93	136	4.29	0.81	102	4.39	0.86
T75	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Map	75	4.09	0.99	136	4.35	0.77	103	4.38	0.84
T76	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume	79	4.13	1.02	134	4.10	0.89	98	4.20	0.95
T77	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Tabular	78	4.09	1.03	131	3.99	0.93	95	4.13	1.07
T78	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Chge	79	3.99	1.10	130	3.87	1.06	99	4.05	1.06
T79	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Tabular	67	3.51	1.34	121	3.69	1.10	85	3.46	1.28
T80	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Chge	68	3.43	1.34	119	3.55	1.12	88	3.45	1.26

ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T81	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness	72	3.97	1.22	125	3.93	1.09	96	3.99	1.08
T82	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Average	72	3.94	1.25	125	3.94	1.11	95	4.09	1.03
T83	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Map	70	3.90	1.25	122	3.85	1.10	91	3.88	1.07
T84	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Chge	71	3.85	1.26	124	3.76	1.11	93	3.84	1.08
T85	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Serial analysis	71	3.96	1.26	124	3.81	1.11	92	3.97	1.12
T86	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Optic Nerve Head	71	4.01	1.16	127	3.80	1.11	92	3.93	1.13
T87	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize	69	3.72	1.08	125	3.53	1.24	93	3.60	1.22
T88	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Align	70	3.74	1.09	128	3.77	1.11	95	3.77	1.08
T89	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize & Align	67	3.79	1.05	123	3.54	1.24	88	3.60	1.14
T90	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Gaussi Smoothing	67	3.18	1.19	109	2.78	1.14	78	2.88	1.22
T91	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Medi Smoothing	64	3.20	1.12	110	2.79	1.17	77	2.92	1.21
T92	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Proportional	68	3.47	1.11	117	3.30	1.25	87	3.37	1.38
T93	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Sc Profile	70	3.51	1.21	117	3.22	1.25	84	3.24	1.21
T94	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize	66	3.50	1.24	110	3.23	1.25	80	3.36	1.26
T95	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Align	65	3.43	1.22	110	3.25	1.24	79	3.30	1.27
T96	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize & Align	64	3.53	1.23	108	3.16	1.25	76	3.21	1.29
T97	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Gaussi Smoothing	62	3.05	1.15	101	2.77	1.21	72	2.89	1.25
T98	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Medi Smoothing	63	3.14	1.15	102	2.77	1.21	71	2.90	1.22
T99	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Proportional	62	3.26	1.10	106	2.97	1.24	73	3.03	1.27
T100	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Sc Profile	65	3.45	1.23	107	2.99	1.22	73	3.04	1.31
T101	OCT: Understands function/properties of following: Controls: Chin/Forehead rest	80	4.51	0.80	138	4.57	0.67	104	4.61	0.67
T102	OCT: Understands function/properties of following: Controls: Table height	79	4.52	0.80	138	4.58	0.65	104	4.60	0.68
T103	OCT: Understands function/properties of following: Controls: Internal fixation device	80	4.54	0.83	137	4.62	0.62	103	4.61	0.70

ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T104	OCT: Understands function/properties of following: Controls: External fixation device	77	4.09	1.23	132	4.07	1.18	99	4.14	1.18
T105	OCT: Understands function/properties of following: Controls: Focus knob	79	4.53	0.77	138	4.62	0.65	103	4.60	0.72
T106	OCT: Understands function/properties of following: Controls: Video brightness	80	4.19	0.86	137	4.26	0.91	102	4.39	0.76
T107	OCT: Understands function/properties of following: Controls: Video contrast	80	4.14	0.85	136	4.18	0.95	103	4.31	0.82
T108	OCT: Understands function/properties of following: Controls: OCT Image noise	77	4.08	1.04	136	4.26	0.77	102	4.35	0.79
T109	OCT: Understands function/properties of following: Controls: OCT Image rge	76	4.12	1.01	135	4.22	0.83	103	4.32	0.83
T110	OCT: Understands function/properties of following: Controls: Line length	75	4.13	1.06	135	4.30	0.90	103	4.38	0.89
T111	OCT: Understands function/properties of following: Controls: Line gle	76	4.09	1.06	136	4.27	0.88	102	4.37	0.86
T112	OCT: Understands function/properties of following: z offset: Auto	75	4.20	1.14	134	4.23	0.93	102	4.35	0.90
T113	OCT: Understands function/properties of following: z offset: Manual	74	4.08	1.16	129	4.22	0.95	102	4.41	0.81
T114	OCT: Understands function/properties of following: z offset: Position/move patient module	75	4.35	0.95	122	4.30	0.85	98	4.38	0.83
T115	OCT: Understands function/properties of following: Polarization: Auto	78	4.36	0.94	133	4.41	0.83	102	4.50	0.73
T116	OCT: Understands function/properties of following: Polarization: Mual	77	3.95	1.22	127	4.07	1.06	101	4.35	0.88
T117	OCT: Understands function/properties of following: Polarization: Resolution	78	4.09	1.01	133	4.26	0.89	103	4.28	0.95
T118	OCT: Interpretation of OCT: Retina: False color scale	70	3.70	1.05	130	3.62	1.05	91	3.87	1.10
T119	OCT: Interpretation of OCT: Retina: Center point	73	3.67	1.18	131	3.85	1.02	98	4.00	1.05
T120	OCT: Interpretation of OCT: Retina: Center thickness measurement	77	3.81	1.18	132	4.07	0.93	100	4.16	0.93
T121	OCT: Interpretation of OCT: Retina: Total macular volume	75	3.61	1.23	130	3.74	1.01	97	3.94	0.98
T122	OCT: Interpretation of OCT: Retina: Retinal map	78	3.73	1.18	133	4.16	0.88	100	4.29	0.89
T123	OCT: Interpretation of OCT: Retina: Measurement calipers	72	3.50	1.14	126	3.66	1.10	96	3.80	1.03
T124	OCT: Interpretation of OCT: Retina: Shadowing	69	3.39	1.19	114	3.41	1.03	89	3.58	1.13
T125	OCT: Interpretation of OCT: Retina: analysis artifacts/plotting errors/failures	72	3.88	1.09	127	3.76	1.03	95	3.97	1.06
T126	OCT: Interpretation of OCT: Retina: Signal strength	76	3.97	1.03	135	4.11	0.94	101	4.17	0.96
T127	OCT: Interpretation of OCT: Retina: +/- Center deviation	72	3.71	1.07	127	3.64	1.04	99	4.01	1.03
T128	OCT: Interpretation of OCT: Retina: Signal-to-noise ratio	72	3.53	1.01	129	3.46	1.06	98	3.86	0.98
T129	OCT: Interpretation of OCT: Retina: Accepted A-Sc%	69	3.38	1.11	122	3.38	1.17	93	3.78	0.99
T130	OCT: Interpretation of OCT: Optic Nerve: False color scale	68	3.51	1.20	116	3.41	1.19	85	3.52	1.20
T131	OCT: Interpretation of OCT: Optic Nerve: Disc reference points	69	3.58	1.12	115	3.56	1.18	91	3.79	1.12

ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T132	OCT: Interpretation of OCT: Optic Nerve: Surface sensitivity	67	3.36	1.12	109	3.23	1.12	86	3.64	1.15
T133	OCT: Interpretation of OCT: Optic Nerve: Disc area	71	3.66	1.25	120	3.58	1.13	91	3.79	1.10
T134	OCT: Interpretation of OCT: Optic Nerve: Cup area	71	3.69	1.26	120	3.59	1.15	91	3.84	1.10
T135	OCT: Interpretation of OCT: Optic Nerve: Rim area	71	3.55	1.26	118	3.57	1.14	90	3.77	1.10
T136	OCT: Interpretation of OCT: Optic Nerve: Cup/disc area ratio	71	3.68	1.24	122	3.61	1.15	92	3.85	1.08
T137	OCT: Interpretation of OCT: Optic Nerve: Cup/disc horizontal ratio	71	3.58	1.20	118	3.43	1.13	92	3.76	1.11
T138	OCT: Interpretation of OCT: Optic Nerve: Cup/disc vertical ratio	70	3.56	1.19	118	3.44	1.11	92	3.75	1.13
T139	OCT: Interpretation of OCT: Optic Nerve: analysis artifacts	67	3.69	1.18	117	3.58	1.14	89	3.83	1.12
T140	OCT: Interpretation of OCT: Optic Nerve: Save current result	71	3.89	1.20	119	3.82	1.15	93	3.98	1.17
T141	OCT: Interpretation of OCT: Troubleshooting: Vibration	73	3.70	1.13	127	3.83	1.14	99	3.99	1.01
T142	OCT: Interpretation of OCT: Troubleshooting: Printer maintenance	79	3.86	1.13	131	3.92	1.10	104	4.13	0.98
T143	OCT: Interpretation of OCT: Troubleshooting: Patient tear film T 143	78	4.18	1.00	131	4.21	0.87	102	4.36	0.84
T144	OCT: Interpretation of OCT: Troubleshooting: Cle lens	79	4.39	0.91	133	4.48	0.78	103	4.55	0.67
T145	OCT: Interpretation of OCT: Troubleshooting: IOL	76	3.89	1.04	132	3.95	0.94	103	4.13	0.88
T146	OCT: Interpretation of OCT: Troubleshooting: Dilation	79	4.15	1.01	132	4.13	0.89	102	4.24	0.89
T147	OCT: Interpretation of OCT: Troubleshooting: Media opacities	77	4.10	1.05	134	4.28	0.86	104	4.40	0.79
T148	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment structures	53	3.68	1.37	81	3.80	1.21	61	3.89	1.03
T149	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment Idmarks/terminology	53	3.68	1.40	81	3.86	1.16	61	3.87	1.02
T150	OCT: Anterior Chamber OCT: Demonstrates understanding of layers of cornea	51	3.47	1.39	79	3.70	1.19	60	3.68	1.00
T151	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber depth	49	3.63	1.32	71	3.27	1.31	53	3.57	1.14
T152	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber gles	49	3.63	1.32	71	3.24	1.33	53	3.53	1.15
T153	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber diameter	49	3.57	1.32	69	3.12	1.35	52	3.46	1.15
T154	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure flap thickness	47	3.40	1.31	67	3.06	1.35	50	3.50	1.09
T155	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure stromal thickness	47	3.40	1.35	67	3.10	1.34	51	3.43	1.14
T156	Data/Image Magement: Storage utilization	78	3.94	1.05	130	4.12	0.87	101	4.28	0.96
T157	Data/Image Magement: Orgizes archival system	78	3.88	1.04	130	4.09	0.92	101	4.32	0.95
T158	Data/Image Magement: Coordinates network file trsfers for archiving/patient data base systems	72	3.83	1.13	124	3.94	0.93	97	4.08	1.10



ID	Task Description	Less Than 2 Years			2 to 3 Years			More Than 3 Years		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T159	Data/Image Magement: Exports Images/data: to CD /DVD-Ram	71	3.77	1.15	130	4.17	0.97	97	4.11	1.06
T160	Data/Image Magement: Exports Images/data: to external USB device	63	3.49	1.29	118	3.86	1.13	93	3.96	1.12
T161	Data/Image Magement: Exports Images/data: floppy	58	3.24	1.38	102	3.33	1.28	79	3.29	1.29
T162	Data/Image Magement: Exports Images/data: Networks OCT	57	3.46	1.32	102	3.60	1.22	83	3.41	1.41
T163	Patient/Operator Safety: Adheres to Universal Precautions as defined by Centers for Disease Control/Prevention (CDC)	76	4.32	1.02	134	4.43	0.86	102	4.42	0.88
T164	Patient/Operator Safety: Observes Occupational Safety/Health Administration (OSHA)/National Institute for Occupational Safety/Health (NIOSH) regulations relating to OCT	77	4.35	0.94	135	4.37	0.88	101	4.39	0.92
T165	Patient/Operator Safety: Understands HIPAA confidentially/privacy regulations relating to OCT	77	4.43	0.91	135	4.59	0.70	101	4.50	0.87

## APPENDIX J

### Subgroup Analysis by Geographic Region

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T1	Applies Principles of anatomy of Eye: Demonstrates understanding of Anterior/posterior segment structures	66	4.27	0.87	83	4.13	0.88	63	4.13	1.08	86	4.23	0.99
T2	Applies Principles of anatomy of Eye: Demonstrates understanding of layers of retina	66	4.30	0.86	85	3.93	0.95	63	4.13	0.99	86	4.06	1.10
T3	Applies Principles of anatomy of Eye: Demonstrates understanding of Optic Nerve anatomy	66	4.06	0.96	84	3.74	0.88	63	3.90	1.10	84	3.77	1.07
T4	Applies Principles of anatomy of Eye: Demonstrates understanding of anatomical landmarks/terminology	66	4.53	0.73	85	4.41	0.70	63	4.43	0.87	86	4.35	0.79
T5	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: retinal diseases	66	4.30	0.82	84	4.01	0.88	63	4.16	0.92	85	4.26	0.79
T6	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: optic nerve disorders	65	3.82	1.01	83	3.60	1.04	63	3.60	1.07	82	3.76	0.96
T7	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: systemic diseases	66	3.50	0.96	81	3.28	1.12	63	3.22	0.92	83	3.25	1.06
T8	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: diabetic retinopathy/macular edema	66	4.24	0.90	84	4.13	0.89	63	4.16	1.00	83	4.28	0.80
T9	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: macular degeneration/choroidal neovascular membrane	66	4.17	0.90	84	4.10	0.89	63	4.16	1.05	85	4.27	0.78
T10	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: central serous retinopathy/subretinal fluid	66	4.06	0.96	84	4.08	0.93	60	4.08	1.05	85	4.31	0.76
T11	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: cystoid macular edema/diffuse macular edema	66	4.20	0.90	84	4.20	0.88	63	4.16	1.03	85	4.31	0.74
T12	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal holes: pseudo/lamellar/full thickness	65	4.31	0.90	84	4.30	0.83	62	4.13	1.02	84	4.36	0.75
T13	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: glaucoma	64	3.72	1.20	81	3.64	1.03	60	3.55	1.16	81	3.67	0.96
T14	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: papilledema/optic pit	66	3.56	1.15	81	3.57	1.14	60	3.57	1.17	82	3.68	0.94

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T15	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: epiretinal membrane	65	4.15	0.92	84	4.13	0.92	60	4.13	0.98	85	4.28	0.80
T16	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: vitreomacular traction	66	4.05	0.95	84	3.95	0.99	61	4.11	0.98	85	4.20	0.87
T17	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: posterior vitreous detachment/weiss ring	64	3.72	1.03	81	3.58	1.22	60	3.72	1.03	84	3.80	0.95
T18	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pigment epithelial detachment	66	3.94	0.97	82	3.88	1.16	60	4.03	1.02	85	4.19	0.82
T19	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal detachment/retinoschisis	66	3.88	1.10	82	3.72	1.22	61	3.87	1.10	83	3.93	1.02
T20	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen/ hard/soft exudates	65	3.68	1.02	79	3.54	1.11	60	3.58	1.00	84	3.70	0.99
T21	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen, ONH	65	3.57	1.16	80	3.50	1.09	60	3.43	1.17	82	3.57	1.04
T22	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pathologic myopia	65	3.46	1.21	80	3.41	1.13	60	3.38	1.06	82	3.43	1.09
T23	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal nerve fiber layer defects	64	3.80	1.06	79	3.67	1.07	61	3.51	1.10	81	3.81	1.03
T24	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Venous/Arterial Occlusions	65	3.57	1.13	81	3.38	1.22	58	3.57	1.16	82	3.65	1.12
T25	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Tumors/Nevi	65	3.65	1.14	80	3.64	1.15	61	3.67	1.08	82	3.77	1.02
T26	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Asteroid Hyalosis/Vitreous Hemorrhage	63	3.67	1.09	79	3.47	1.22	59	3.58	1.04	81	3.51	1.15
T27	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Informs patient of procedures to be performed.	65	4.54	0.69	83	4.36	0.77	63	4.40	0.79	84	4.43	0.84
T28	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: swers patient questions concerning procedure	65	4.49	0.69	84	4.37	0.77	63	4.29	0.89	84	4.38	0.82
T29	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes fixation	65	4.72	0.55	84	4.58	0.66	63	4.63	0.66	85	4.69	0.64
T30	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Elicits cooperation from uncooperative or physically disabled patients	65	4.54	0.75	84	4.33	0.81	63	4.51	0.76	85	4.42	0.98

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T31	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: medical/surgical history	62	3.66	1.12	80	3.48	1.20	61	3.52	0.99	78	3.38	1.22
T32	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: ocular history	63	4.00	1.11	82	3.74	1.15	61	3.85	1.06	79	3.71	1.10
T33	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: photographic history	61	3.84	1.00	82	3.70	1.11	61	3.62	1.14	82	3.66	1.11
T34	OCT: Understands function/components of OCT machine including: wavelength of laser	62	3.21	1.10	81	2.47	1.03	61	2.87	1.07	80	2.84	0.93
T35	OCT: Understands function/components of OCT machine including: time of flight delay/interferometry	64	2.94	1.05	80	2.38	1.05	57	2.77	1.04	77	2.78	0.97
T36	OCT: Understands function/components of OCT machine including: limitations of machine	66	4.02	0.95	84	3.62	1.09	63	3.75	1.09	83	3.95	1.00
T37	OCT: Understands function/components of OCT machine including: working dist	66	3.98	0.95	84	3.58	1.16	63	3.73	1.15	82	3.90	0.98
T38	OCT: Understands function/components of OCT machine including: resolution	66	3.89	0.93	84	3.63	1.06	63	3.71	1.07	83	3.84	1.04
T39	OCT: Performs routine maintenance/equipment troubleshooting including: electronic components	54	2.94	1.20	69	2.99	1.06	53	3.00	1.16	68	2.76	1.05
T40	OCT: Performs routine maintenance/equipment troubleshooting including: cleing equipment	61	4.00	1.02	84	3.81	1.10	62	3.92	1.03	83	3.78	1.00
T41	OCT: Performs routine maintenance/equipment troubleshooting including: software maintence	59	3.56	1.10	79	3.46	1.13	60	3.65	1.04	80	3.54	1.04
T42	OCT: Understands/applies scanning protocols: Retina: Macular thickness map/Radial Lines	63	4.51	0.67	84	4.24	0.90	60	4.33	0.77	81	4.16	0.99
T43	OCT: Understands/applies scanning protocols: Retina: Fast macular thickness map	65	4.58	0.63	83	4.36	0.86	62	4.29	0.84	84	4.55	0.73
T44	OCT: Understands/applies scanning protocols: Retina: Optic Disc/Fast Optic Disc	62	4.06	1.16	80	3.86	1.13	57	3.74	1.13	81	3.62	1.20
T45	OCT: Understands/applies scanning protocols: Retina: RNFL thickness 3.4/Fast RNFL Thickness 3.4	63	4.10	1.13	77	3.86	1.13	61	3.85	1.06	80	3.85	1.13
T46	OCT: Understands/applies scanning protocols: Retina: RNFL map/Fast RNFL map	64	3.89	1.21	76	3.80	1.17	58	3.86	1.05	79	3.72	1.21
T47	OCT: Understands/applies scanning protocols: Retina: Nerve head circle	60	3.62	1.28	74	3.38	1.17	55	3.44	1.32	80	3.21	1.28
T48	OCT: Understands/applies scanning protocols: Retina: Line	63	4.13	0.99	80	4.03	0.98	62	4.11	0.96	83	4.31	0.96
T49	OCT: Understands/applies scanning protocols: Retina: Circle	58	3.38	1.25	69	3.04	1.06	51	3.12	1.29	73	3.08	1.28

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T50	OCT: Understands/applies scanning protocols: Retina: Raster Line	56	3.50	1.14	70	2.91	1.02	51	3.24	1.19	74	3.01	1.27
T51	OCT: Understands/applies scanning protocols: Retina: Cross hair	60	3.93	1.12	78	3.72	1.08	61	3.69	1.19	80	3.78	1.11
T52	OCT: Understands/applies scanning protocols: Retina: Radial lines	62	3.95	1.08	72	3.39	1.12	55	3.53	1.25	76	3.50	1.16
T53	OCT: Understands/applies scanning protocols: Retina: Proportional circle	54	3.07	1.10	66	2.65	1.07	49	2.88	1.27	67	2.94	1.19
T54	OCT: Understands/applies scanning protocols: Retina: Concentric three-rings	53	2.96	1.19	67	2.54	1.08	49	2.94	1.30	66	2.88	1.21
T55	OCT: Understands/applies scanning protocols: Retina: X-line	57	3.14	1.22	68	3.00	1.26	55	3.16	1.20	69	3.07	1.15
T56	OCT: Understands/applies scanning protocols: Retina: Custom Sc	63	3.75	1.11	70	3.80	1.16	59	3.68	1.22	79	3.71	1.30
T57	OCT: Understands/applies scanning protocols: Retina: Repeat	61	3.69	1.16	77	3.49	1.17	55	3.85	1.21	76	3.68	1.22
T58	OCT: Understands/applies scanning protocols: Glaucoma: Macular thickness map/Radial Lines	59	3.81	1.28	73	3.37	1.35	53	3.51	1.22	73	3.16	1.28
T59	OCT: Understands/applies scanning protocols: Glaucoma: Fast macular thickness map	61	4.03	1.09	71	3.52	1.36	55	3.75	1.19	77	3.68	1.19
T60	OCT: Understands/applies scanning protocols: Glaucoma: Optic Disc/Fast Optic Disc	61	4.20	1.01	74	3.91	1.20	58	4.00	1.14	78	3.94	1.12
T61	OCT: Understands/applies scanning protocols: Glaucoma: RNFL thickness 3.4/Fast RNFL Thickness 3.4	61	4.23	1.01	75	3.91	1.16	59	4.15	1.01	78	3.87	1.22
T62	OCT: Understands/applies scanning protocols: Glaucoma: RNFL map/Fast RNFL map	61	4.07	1.12	73	3.97	1.11	58	3.81	1.22	78	3.88	1.17
T63	OCT: Understands/applies scanning protocols: Glaucoma: Nerve head circle	58	3.71	1.21	68	3.50	1.20	54	3.41	1.31	74	3.46	1.21
T64	OCT: Understands/applies scanning protocols: Glaucoma: Line	55	3.49	1.25	66	3.14	1.15	50	3.06	1.27	71	3.48	1.29
T65	OCT: Understands/applies scanning protocols: Glaucoma: Circle	52	3.25	1.36	62	2.84	1.16	46	2.98	1.22	69	3.06	1.28
T66	OCT: Understands/applies scanning protocols: Glaucoma: Raster Line	52	2.98	1.31	60	2.60	1.12	44	2.95	1.18	66	2.94	1.18
T67	OCT: Understands/applies scanning protocols: Glaucoma: Cross hair	53	3.17	1.24	62	2.89	1.29	48	3.08	1.33	67	3.19	1.22
T68	OCT: Understands/applies scanning protocols: Glaucoma: Radial lines	54	3.15	1.31	60	2.65	1.26	48	3.00	1.25	66	3.20	1.22
T69	OCT: Understands/applies scanning protocols: Glaucoma: Proportional circle	53	2.96	1.30	61	2.66	1.12	45	2.91	1.22	63	2.97	1.22
T70	OCT: Understands/applies scanning protocols: Glaucoma: Concentric three-rings	49	2.96	1.31	63	2.59	1.17	45	2.87	1.24	64	2.91	1.24
T71	OCT: Understands/applies scanning protocols: Glaucoma: X-line	52	2.92	1.25	60	2.52	1.13	46	2.87	1.28	64	2.88	1.18
T72	OCT: Understands/applies scanning protocols: Glaucoma: Custom Sc	54	3.33	1.26	63	3.14	1.35	48	3.35	1.36	71	3.24	1.33
T73	OCT: Understands/applies scanning protocols: Glaucoma: Repeat	54	3.61	1.32	68	3.38	1.26	54	3.87	1.21	74	3.77	1.30

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T74	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness	65	4.42	0.79	83	4.23	0.91	61	4.21	0.90	82	4.27	0.83
T75	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Map	64	4.38	0.83	82	4.18	0.92	62	4.32	0.88	80	4.30	0.83
T76	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume	64	4.38	0.75	81	3.94	1.09	59	3.98	1.06	81	4.26	0.77
T77	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Tabular	64	4.05	0.95	79	3.97	1.07	55	4.11	1.01	81	4.12	0.99
T78	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Chge	64	3.88	1.11	79	3.85	1.09	60	3.92	1.17	80	4.16	0.95
T79	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Tabular	57	3.67	1.14	68	3.41	1.33	52	3.75	1.20	73	3.51	1.18
T80	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Chge	56	3.48	1.13	67	3.34	1.31	55	3.49	1.29	74	3.59	1.17
T81	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness	61	4.10	1.03	74	3.93	1.17	60	3.78	1.19	74	4.03	1.05
T82	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Average	60	4.10	1.05	73	3.95	1.19	60	3.93	1.16	76	3.99	1.06
T83	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Map	62	3.97	1.06	71	3.86	1.19	56	3.70	1.23	72	3.92	1.06
T84	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Chge	60	3.88	1.08	70	3.80	1.19	61	3.70	1.28	75	3.84	1.03
T85	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Serial analysis	60	3.95	1.06	70	3.80	1.33	58	3.83	1.17	76	4.03	1.03
T86	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Optic Nerve Head	60	4.03	1.09	73	3.99	1.17	58	3.83	1.14	76	3.79	1.11
T87	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize	62	3.52	1.17	74	3.54	1.18	55	3.56	1.24	72	3.78	1.20
T88	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Align	61	3.72	1.05	73	3.62	1.15	57	3.89	1.05	77	3.87	1.07
T89	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize & Align	61	3.61	1.10	74	3.54	1.21	49	3.61	1.24	71	3.70	1.15
T90	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Gaussi Smoothing	53	2.85	1.20	65	2.75	1.10	47	3.28	1.10	67	2.91	1.24

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T91	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Medi Smoothing	54	2.89	1.16	63	2.70	1.07	48	3.31	1.17	64	2.94	1.23
T92	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Proportional	53	3.08	1.27	70	3.14	1.20	52	3.65	1.22	75	3.63	1.27
T93	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Sc Profile	54	3.17	1.26	68	3.16	1.17	53	3.38	1.26	73	3.44	1.20
T94	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize	56	3.32	1.24	63	3.32	1.25	46	3.37	1.24	69	3.45	1.22
T95	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Align	55	3.25	1.21	62	3.27	1.27	47	3.51	1.25	68	3.37	1.21
T96	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize & Align	54	3.33	1.27	61	3.11	1.23	44	3.45	1.25	68	3.37	1.24
T97	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Gaussi Smoothing	50	2.82	1.26	57	2.56	1.02	44	3.18	1.26	64	3.08	1.20
T98	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Medi Smoothing	50	2.84	1.27	58	2.57	1.01	43	3.30	1.21	64	3.06	1.18
T99	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Proportional	50	2.84	1.28	59	2.81	1.06	45	3.22	1.20	66	3.39	1.20
T100	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Sc Profile	49	3.02	1.27	61	2.89	1.18	43	3.30	1.28	70	3.37	1.19
T101	OCT: Understands function/properties of following: Controls: Chin/Forehead rest	65	4.63	0.72	84	4.54	0.75	63	4.51	0.67	84	4.60	0.70
T102	OCT: Understands function/properties of following: Controls: Table height	65	4.65	0.69	83	4.53	0.77	63	4.51	0.64	84	4.60	0.68
T103	OCT: Understands function/properties of following: Controls: Internal fixation device	64	4.64	0.74	84	4.61	0.68	63	4.54	0.67	83	4.59	0.75
T104	OCT: Understands function/properties of following: Controls: External fixation device	63	3.98	1.29	79	4.04	1.22	61	4.16	1.10	80	4.19	1.09
T105	OCT: Understands function/properties of following: Controls: Focus knob	65	4.72	0.65	84	4.50	0.77	61	4.52	0.70	84	4.62	0.71
T106	OCT: Understands function/properties of following: Controls: Video brightness	64	4.33	0.87	83	4.10	0.93	62	4.50	0.59	84	4.24	0.89
T107	OCT: Understands function/properties of following: Controls: Video contrast	64	4.27	0.88	84	4.01	0.95	63	4.40	0.68	82	4.21	0.91
T108	OCT: Understands function/properties of following: Controls: OCT Image noise	64	4.22	0.92	82	4.16	0.85	62	4.35	0.83	82	4.27	0.88
T109	OCT: Understands function/properties of following: Controls: OCT Image rge	65	4.22	0.91	80	4.06	0.95	62	4.31	0.86	81	4.31	0.86
T110	OCT: Understands function/properties of following: Controls: Line length	64	4.25	1.01	79	4.30	0.92	62	4.29	0.89	83	4.37	0.88
T111	OCT: Understands function/properties of following: Controls: Line gle	63	4.16	0.99	81	4.26	0.95	62	4.27	0.91	83	4.37	0.87

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T112	OCT: Understands function/properties of following: z offset: Auto	63	4.32	0.91	75	4.32	0.86	63	4.27	1.05	84	4.29	0.93
T113	OCT: Understands function/properties of following: z offset: Manual	61	4.25	0.83	79	4.14	1.05	61	4.31	0.94	80	4.40	0.91
T114	OCT: Understands function/properties of following: z offset: Position/move patient module	58	4.48	0.78	75	4.29	0.85	60	4.38	0.85	78	4.23	0.98
T115	OCT: Understands function/properties of following: Polarization: Auto	62	4.55	0.69	79	4.38	0.85	62	4.35	0.87	84	4.43	0.83
T116	OCT: Understands function/properties of following: Polarization: Manual	61	4.26	0.89	79	3.95	1.20	60	4.18	1.00	80	4.26	0.96
T117	OCT: Understands function/properties of following: Polarization: Resolution	65	4.34	0.82	83	4.02	0.98	60	4.20	0.99	80	4.30	0.99
T118	OCT: Interpretation of OCT: Retina: False color scale	59	3.85	0.93	73	3.42	1.15	57	3.75	1.06	78	3.81	1.02
T119	OCT: Interpretation of OCT: Retina: Center point	63	4.06	0.93	78	3.73	1.16	59	3.80	1.13	79	3.86	1.05
T120	OCT: Interpretation of OCT: Retina: Center thickness measurement	64	4.13	0.92	82	3.79	1.09	59	4.03	1.00	81	4.07	1.02
T121	OCT: Interpretation of OCT: Retina: Total macular volume	63	3.94	1.00	78	3.50	1.15	56	3.84	1.04	82	3.83	1.02
T122	OCT: Interpretation of OCT: Retina: Retinal map	64	4.16	0.91	81	3.94	1.09	61	4.10	0.96	81	4.16	0.93
T123	OCT: Interpretation of OCT: Retina: Measurement calipers	62	3.68	1.13	72	3.61	1.13	58	3.57	1.06	78	3.69	1.08
T124	OCT: Interpretation of OCT: Retina: Shadowing	58	3.66	1.18	66	3.24	1.04	53	3.51	1.10	72	3.50	1.03
T125	OCT: Interpretation of OCT: Retina: analysis artifacts/plotting errors/failures	62	3.95	1.03	73	3.74	1.08	58	3.76	1.08	77	3.94	1.02
T126	OCT: Interpretation of OCT: Retina: Signal strength	64	4.30	0.83	82	4.06	0.92	61	3.84	1.14	80	4.06	0.97
T127	OCT: Interpretation of OCT: Retina: +/- Center deviation	62	3.92	0.98	75	3.64	1.07	58	3.81	1.05	79	3.76	1.10
T128	OCT: Interpretation of OCT: Retina: Signal-to-noise ratio	59	3.64	1.01	74	3.70	1.00	61	3.59	1.09	80	3.51	1.08
T129	OCT: Interpretation of OCT: Retina: Accepted A-Sc%	56	3.64	1.10	74	3.36	1.08	54	3.52	1.09	76	3.54	1.11
T130	OCT: Interpretation of OCT: Optic Nerve: False color scale	53	3.60	1.03	65	3.32	1.31	55	3.44	1.17	74	3.53	1.13
T131	OCT: Interpretation of OCT: Optic Nerve: Disc reference points	57	3.82	1.09	66	3.59	1.11	53	3.58	1.08	77	3.60	1.14
T132	OCT: Interpretation of OCT: Optic Nerve: Surface sensitivity	56	3.59	1.01	61	3.13	1.18	50	3.42	1.14	73	3.48	1.09
T133	OCT: Interpretation of OCT: Optic Nerve: Disc area	58	3.81	1.15	68	3.65	1.16	56	3.66	1.10	76	3.63	1.00
T134	OCT: Interpretation of OCT: Optic Nerve: Cup area	58	3.81	1.15	70	3.71	1.16	55	3.67	1.12	75	3.65	1.03
T135	OCT: Interpretation of OCT: Optic Nerve: Rim area	57	3.79	1.05	67	3.63	1.24	56	3.63	1.12	75	3.60	0.99
T136	OCT: Interpretation of OCT: Optic Nerve: Cup/disc area ratio	59	3.83	1.10	70	3.71	1.21	55	3.67	1.07	77	3.66	1.02
T137	OCT: Interpretation of OCT: Optic Nerve: Cup/disc horizontal ratio	58	3.71	1.06	68	3.51	1.20	55	3.60	1.12	76	3.55	1.04



ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T138	OCT: Interpretation of OCT: Optic Nerve: Cup/disc vertical ratio	58	3.69	1.08	68	3.56	1.19	55	3.56	1.08	75	3.53	1.03
T139	OCT: Interpretation of OCT: Optic Nerve: analysis artifacts	56	3.95	1.07	64	3.45	1.10	56	3.70	1.08	74	3.72	1.10
T140	OCT: Interpretation of OCT: Optic Nerve: Save current result	59	4.15	1.10	70	3.67	1.14	56	3.82	1.15	75	3.97	1.09
T141	OCT: Interpretation of OCT: Troubleshooting: Vibration	58	3.81	1.07	76	3.67	1.11	62	3.94	1.07	79	4.00	1.05
T142	OCT: Interpretation of OCT: Troubleshooting: Printer maintenance	62	3.90	1.13	83	3.89	1.09	62	4.08	1.00	82	3.95	1.10
T143	OCT: Interpretation of OCT: Troubleshooting: Patient tear film T 143	63	4.25	0.95	82	4.06	0.99	61	4.28	0.88	80	4.36	0.82
T144	OCT: Interpretation of OCT: Troubleshooting: Cle lens	64	4.47	0.78	83	4.48	0.79	62	4.37	0.77	81	4.47	0.85
T145	OCT: Interpretation of OCT: Troubleshooting: IOL	63	3.98	0.87	82	3.78	1.05	60	4.02	0.95	81	4.07	0.93
T146	OCT: Interpretation of OCT: Troubleshooting: Dilation	64	4.31	0.87	83	4.07	0.91	60	4.07	0.99	82	4.17	0.97
T147	OCT: Interpretation of OCT: Troubleshooting: Media opacities	64	4.30	0.90	83	4.11	0.95	62	4.31	0.86	81	4.32	0.92
T148	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment structures	38	4.00	1.12	50	3.82	1.08	39	3.90	1.07	54	3.63	1.34
T149	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment landmarks/terminology	38	4.00	1.12	51	3.80	1.10	39	3.87	1.10	53	3.74	1.27
T150	OCT: Anterior Chamber OCT: Demonstrates understanding of layers of cornea	38	3.87	1.12	49	3.59	1.08	38	3.79	1.12	51	3.47	1.30
T151	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber depth	36	3.69	1.06	48	3.40	1.18	33	3.55	1.15	43	3.37	1.46
T152	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber gles	36	3.64	1.10	48	3.38	1.16	33	3.52	1.18	43	3.35	1.48
T153	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber diameter	36	3.53	1.11	47	3.28	1.21	32	3.47	1.19	43	3.26	1.45
T154	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure flap thickness	34	3.47	1.16	46	3.11	1.12	31	3.61	1.09	40	3.20	1.44
T155	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure stromal thickness	34	3.44	1.11	46	3.15	1.19	32	3.56	1.19	40	3.23	1.42
T156	Data/Image Magement: Storage utilization	63	4.25	0.90	82	4.05	0.95	61	4.13	1.09	81	4.05	0.95
T157	Data/Image Magement: Orgizes archival system	63	4.19	0.90	81	3.98	1.07	61	4.21	1.03	81	4.06	0.94
T158	Data/Image Magement: Coordinates network file trsfers for archiving/patient data base systems	60	4.05	1.03	74	3.88	1.03	59	4.03	1.05	80	3.89	1.08

ID	Task Description	West			Great Lakes / Midwest			Southeast			Northeast		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T159	Data/Image Magement: Exports Images/data: to CD /DVD-Ram	63	4.10	1.01	76	3.84	1.14	61	4.20	1.00	77	4.09	1.07
T160	Data/Image Magement: Exports Images/data: to external USB device	56	3.66	1.28	68	3.72	1.16	58	3.88	1.14	72	3.89	1.11
T161	Data/Image Magement: Exports Images/data: floppy	53	3.25	1.24	58	3.31	1.34	45	3.47	1.29	67	3.27	1.32
T162	Data/Image Magement: Exports Images/data: Networks OCT	52	3.65	1.27	60	3.27	1.34	51	3.73	1.23	65	3.46	1.34
T163	Patient/Operator Safety: Adheres to Universal Precautions as defined by Centers for Disease Control/Prevention (CDC)	63	4.44	0.84	84	4.43	0.85	62	4.34	1.01	80	4.45	0.88
T164	Patient/Operator Safety: Observes Occupational Safety/Health Administration (OSHA)/National Institute for Occupational Safety/Health (NIOSH) regulations relating to OCT	63	4.51	0.80	85	4.39	0.90	61	4.26	1.00	82	4.37	0.91
T165	Patient/Operator Safety: Understands HIPAA confidentially/privacy regulations relating to OCT	63	4.59	0.75	85	4.49	0.83	61	4.56	0.74	82	4.54	0.83

## APPENDIX K

### Subgroup Analysis by Practice Setting

ID	Task Description	Hospital / Medical Facility			University Hospital / Medical Facility			Private Practice (general / multi-specialty)			Private Practice (Retina Only)			Other		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T1	Applies Principles of anatomy of Eye: Demonstrates understanding of Anterior/posterior segment structures	38	4.39	0.79	75	4.11	0.94	87	4.26	1.07	95	4.13	0.94	24	4.21	0.59
T2	Applies Principles of anatomy of Eye: Demonstrates understanding of layers of retina	40	4.28	0.88	75	4.08	0.94	87	4.13	1.01	96	4.04	1.08	24	4.08	0.72
T3	Applies Principles of anatomy of Eye: Demonstrates understanding of Optic Nerve atomy	40	4.00	0.85	75	3.95	0.93	87	4.11	0.93	92	3.48	1.05	24	3.92	1.02
T4	Applies Principles of anatomy of Eye: Demonstrates understanding of anatomical Idmarks/terminology	39	4.44	0.72	75	4.51	0.64	87	4.47	0.87	96	4.32	0.73	24	4.25	0.85
T5	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: retinal diseases	39	4.23	0.78	75	4.17	0.79	86	4.13	0.92	96	4.30	0.84	24	4.08	0.83
T6	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: optic nerve disorders	39	4.03	0.84	74	3.68	0.95	86	3.90	1.02	91	3.35	1.09	24	3.54	0.93
T7	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify ocular manifestations of: systemic diseases	37	3.78	0.82	75	3.29	0.98	85	3.34	1.13	95	3.14	1.07	22	3.14	0.94
T8	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: diabetic retinopathy/macular edema	38	4.21	0.87	74	4.20	0.96	86	4.13	0.93	95	4.37	0.74	24	4.04	0.86
T9	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: macular degeneration/choroidal neovascular membrane	39	4.23	0.84	75	4.09	0.95	86	4.13	1.00	95	4.34	0.75	24	4.08	0.83
T10	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: central serous retinopathy/subretinal fluid	39	4.28	0.79	73	4.12	0.94	85	4.06	1.02	95	4.31	0.77	24	3.96	1.00
T11	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: cystoid macular edema/diffuse macular edema	39	4.28	0.83	75	4.19	0.93	86	4.13	0.97	95	4.41	0.69	24	4.13	0.90
T12	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal holes: pseudo/lamellar/full thickness	38	4.32	0.81	74	4.22	0.91	86	4.20	0.99	94	4.52	0.63	24	4.17	0.87
T13	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: glaucoma	39	3.87	0.98	73	3.71	0.98	83	3.87	1.06	86	3.20	1.16	24	3.71	1.08
T14	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: papilledema/optic pit	39	3.82	0.91	73	3.60	0.97	86	3.67	1.18	87	3.39	1.20	24	3.67	1.13
T15	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: epiretinal membrane	39	4.26	0.79	75	4.16	0.89	86	4.07	1.03	91	4.36	0.72	24	4.00	0.88
T16	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: vitreomacular traction	39	4.08	0.98	74	4.14	0.90	86	3.93	1.14	93	4.25	0.76	24	3.75	0.94
T17	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: posterior vitreous detachment/weiss ring	38	3.84	0.82	73	3.86	0.99	86	3.56	1.16	86	3.76	1.07	24	3.71	1.08

ID	Task Description	Hospital / Medical Facility			University Hospital / Medical Facility			Private Practice (general / multi-specialty)			Private Practice (Retina Only)			Other		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T18	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pigment epithelial detachment	38	4.16	0.82	72	4.11	0.97	85	3.87	1.11	93	4.10	0.94	23	3.87	1.06
T19	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal detachment/retinoschisis	38	4.00	0.99	73	3.92	1.06	86	3.81	1.17	90	3.84	1.13	23	3.43	0.99
T20	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen/ hard/soft exudates	39	3.72	0.97	74	3.65	0.97	82	3.61	1.03	89	3.64	1.09	24	3.50	1.02
T21	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: drusen, ONH	39	3.67	1.01	73	3.51	1.04	84	3.63	1.14	86	3.38	1.18	24	3.25	1.07
T22	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: pathologic myopia	38	3.63	1.13	72	3.58	1.02	83	3.24	1.13	89	3.34	1.17	24	3.17	1.17
T23	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: retinal nerve fiber layer defects	39	3.90	1.02	72	3.72	1.01	84	3.79	0.97	86	3.48	1.17	24	3.54	1.25
T24	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Venous/Arterial Occlusions	38	3.55	1.22	73	3.67	0.99	82	3.48	1.24	88	3.59	1.12	24	3.17	1.34
T25	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Tumors/Nevi	39	3.67	1.03	73	3.59	1.08	84	3.81	1.16	88	3.63	1.05	23	3.57	1.34
T26	Applies Concepts of Pathology of Eye to OCT findings: Recognize/identify clinical OCT findings of: Asteroid Hyalosis/Vitreous Hemorrhage	38	3.50	1.16	73	3.62	1.14	83	3.52	1.18	84	3.49	1.08	22	3.50	1.22
T27	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Informs patient of procedures to be performed.	39	4.56	0.64	74	4.27	0.83	84	4.50	0.80	95	4.46	0.76	23	4.30	0.82
T28	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: swers patient questions concerning procedure	39	4.36	0.78	74	4.24	0.84	85	4.53	0.75	95	4.41	0.74	23	4.30	0.93
T29	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes fixation	39	4.67	0.53	74	4.70	0.54	86	4.60	0.79	95	4.66	0.56	23	4.74	0.54
T30	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Elicits cooperation from uncooperative or physically disabled patients	38	4.34	0.88	74	4.57	0.62	86	4.41	0.91	95	4.48	0.78	23	4.30	0.93
T31	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: medical/surgical history	37	3.73	1.19	71	3.35	1.15	82	3.76	1.05	90	3.47	1.19	22	3.18	1.40
T32	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: ocular history	38	3.76	1.05	71	3.65	1.11	83	4.12	1.05	91	3.76	1.12	22	3.82	1.18
T33	Applies Concepts of Pathology of Eye to OCT findings: Patient Magement: Establishes/reviews patient records including: photographic history	38	3.82	0.95	71	3.54	1.21	81	3.96	1.04	93	3.70	1.08	23	3.52	1.08
T34	OCT: Understands function/components of OCT machine including: wavelength of laser	37	3.22	1.20	70	2.77	0.90	83	2.90	1.10	90	2.79	1.07	23	2.43	0.95
T35	OCT: Understands function/components of OCT machine including: time of flight delay/interferometry	37	3.05	1.10	69	2.74	0.96	80	2.63	1.12	89	2.69	1.03	22	2.55	0.80

ID	Task Description	Hospital / Medical Facility			University Hospital / Medical Facility			Private Practice (general / multi-specialty)			Private Practice (Retina Only)			Other		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T36	OCT: Understands function/components of OCT machine including: limitations of machine	38	3.89	0.86	74	4.01	1.01	86	3.70	1.11	94	3.86	1.01	24	3.58	1.14
T37	OCT: Understands function/components of OCT machine including: working dist	38	3.89	0.95	74	4.03	1.09	84	3.70	1.17	94	3.82	0.93	24	3.58	1.18
T38	OCT: Understands function/components of OCT machine including: resolution	38	3.79	1.12	73	3.93	0.90	86	3.79	1.06	95	3.82	0.92	24	3.29	1.33
T39	OCT: Performs routine maintence/equipment troubleshooting including: electronic components	33	3.00	1.25	58	2.90	0.89	69	2.91	1.23	80	2.96	1.15	21	2.86	1.01
T40	OCT: Performs routine maintence/equipment troubleshooting including: cleing equipment	37	3.68	1.18	74	3.91	0.88	82	3.89	1.17	91	3.92	1.00	24	4.00	0.93
T41	OCT: Performs routine maintence/equipment troubleshooting including: software maintence	36	3.75	1.05	68	3.54	1.06	81	3.57	1.16	87	3.45	1.16	23	3.65	0.78
T42	OCT: Understands/applies scanning protocols: Retina: Macular thickness map/Radial Lines	38	4.18	0.83	70	4.17	0.95	83	4.40	0.83	93	4.42	0.85	24	4.08	0.72
T43	OCT: Understands/applies scanning protocols: Retina: Fast macular thickness map	38	4.34	0.78	73	4.42	0.86	84	4.49	0.75	95	4.51	0.74	24	4.25	0.79
T44	OCT: Understands/applies scanning protocols: Retina: Optic Disc/Fast Optic Disc	38	3.87	1.14	68	3.97	1.05	84	4.02	1.14	84	3.39	1.29	24	3.79	0.93
T45	OCT: Understands/applies scanning protocols: Retina: RNFL thickness 3.4/Fast RNFL Thickness 3.4	38	4.13	0.96	72	4.14	1.07	83	4.14	0.99	83	3.35	1.25	24	3.71	0.95
T46	OCT: Understands/applies scanning protocols: Retina: RNFL map/Fast RNFL map	38	4.21	0.93	70	3.96	1.15	80	3.91	1.18	84	3.40	1.25	23	3.48	1.04
T47	OCT: Understands/applies scanning protocols: Retina: Nerve head circle	37	3.68	1.23	67	3.48	1.22	77	3.66	1.26	84	2.88	1.24	23	3.30	1.22
T48	OCT: Understands/applies scanning protocols: Retina: Line	38	4.13	0.99	71	4.27	0.86	82	4.05	1.13	93	4.15	1.05	24	4.13	0.68
T49	OCT: Understands/applies scanning protocols: Retina: Circle	36	3.47	1.18	65	3.18	1.16	67	3.33	1.34	81	2.86	1.16	21	2.90	1.22
T50	OCT: Understands/applies scanning protocols: Retina: Raster Line	37	3.14	1.29	64	3.17	1.11	68	3.35	1.27	78	2.90	1.16	21	2.86	0.96
T51	OCT: Understands/applies scanning protocols: Retina: Cross hair	38	3.45	1.25	72	3.96	1.08	75	3.69	1.19	89	3.76	1.18	24	3.54	1.02
T52	OCT: Understands/applies scanning protocols: Retina: Radial lines	37	3.62	1.19	67	3.58	1.16	73	3.64	1.17	84	3.54	1.25	23	2.96	1.15
T53	OCT: Understands/applies scanning protocols: Retina: Proportional circle	34	3.18	1.19	61	2.97	1.12	61	2.90	1.23	77	2.73	1.11	20	2.40	1.19
T54	OCT: Understands/applies scanning protocols: Retina: Concentric three-rings	33	3.27	1.18	63	2.83	1.23	62	2.90	1.24	74	2.61	1.11	19	2.37	1.21
T55	OCT: Understands/applies scanning protocols: Retina: X-line	35	3.14	1.22	64	3.23	1.09	67	3.22	1.24	77	2.97	1.25	22	2.09	0.97
T56	OCT: Understands/applies scanning protocols: Retina: Custom Sc	37	3.68	1.27	68	4.01	1.04	71	3.61	1.27	91	3.69	1.32	23	3.48	0.85
T57	OCT: Understands/applies scanning protocols: Retina: Repeat	37	3.78	1.16	65	3.80	1.11	79	3.92	1.11	82	3.27	1.31	24	3.88	1.15
T58	OCT: Understands/applies scanning protocols: Glaucoma: Macular thickness map/Radial Lines	37	3.65	1.30	64	3.47	1.27	78	3.56	1.38	74	3.07	1.20	22	3.68	1.29
T59	OCT: Understands/applies scanning protocols: Glaucoma: Fast macular thickness map	38	4.00	1.14	68	3.93	1.15	79	3.95	1.21	75	3.12	1.17	21	3.76	1.22
T60	OCT: Understands/applies scanning protocols: Glaucoma: Optic Disc/Fast Optic Disc	36	4.14	0.96	67	4.07	1.15	85	4.28	1.00	77	3.56	1.23	23	3.87	1.18

ID	Task Description	Hospital / Medical Facility			University Hospital / Medical Facility			Private Practice (general / multi-specialty)			Private Practice (Retina Only)			Other		
		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T61	OCT: Understands/applies scanning protocols: Glaucoma: RNFL thickness 3.4/Fast RNFL Thickness 3.4	38	4.03	1.10	72	4.33	0.90	83	4.31	1.00	74	3.45	1.25	23	3.74	1.21
T62	OCT: Understands/applies scanning protocols: Glaucoma: RNFL map/Fast RNFL map	38	4.03	1.08	68	4.24	0.96	82	4.07	1.17	76	3.45	1.25	23	3.83	1.11
T63	OCT: Understands/applies scanning protocols: Glaucoma: Nerve head circle	36	3.64	1.13	66	3.59	1.14	74	3.62	1.28	75	3.24	1.25	20	2.95	1.28
T64	OCT: Understands/applies scanning protocols: Glaucoma: Line	34	3.62	1.23	64	3.50	1.21	67	3.40	1.33	72	2.83	1.16	20	3.15	1.18
T65	OCT: Understands/applies scanning protocols: Glaucoma: Circle	34	3.35	1.25	61	3.02	1.22	63	3.10	1.39	68	2.81	1.14	18	2.44	1.25
T66	OCT: Understands/applies scanning protocols: Glaucoma: Raster Line	32	3.09	1.28	61	2.85	1.14	60	3.02	1.27	66	2.61	1.09	18	2.44	1.25
T67	OCT: Understands/applies scanning protocols: Glaucoma: Cross hair	33	3.48	1.23	62	3.16	1.24	63	3.17	1.35	69	2.80	1.20	18	2.94	1.30
T68	OCT: Understands/applies scanning protocols: Glaucoma: Radial lines	33	3.39	1.17	61	2.92	1.20	63	3.05	1.36	68	2.79	1.24	18	2.72	1.36
T69	OCT: Understands/applies scanning protocols: Glaucoma: Proportional circle	33	3.21	1.22	60	2.87	1.14	59	2.92	1.33	67	2.75	1.15	18	2.39	1.24
T70	OCT: Understands/applies scanning protocols: Glaucoma: Concentric three-rings	34	3.09	1.33	61	2.82	1.19	56	2.79	1.23	67	2.75	1.22	18	2.28	1.18
T71	OCT: Understands/applies scanning protocols: Glaucoma: X-line	32	3.06	1.24	60	2.88	1.14	61	2.75	1.26	66	2.64	1.16	18	2.28	1.18
T72	OCT: Understands/applies scanning protocols: Glaucoma: Custom Sc	35	3.49	1.29	63	3.51	1.31	64	3.20	1.29	72	3.01	1.36	18	2.94	1.26
T73	OCT: Understands/applies scanning protocols: Glaucoma: Repeat	35	3.66	1.37	64	3.86	1.11	77	3.96	1.17	68	3.13	1.34	23	3.70	1.36
T74	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness	38	4.26	0.86	71	4.30	0.83	86	4.36	0.87	94	4.26	0.87	22	4.14	0.94
T75	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Map	38	4.32	0.84	70	4.39	0.79	83	4.28	0.93	94	4.30	0.87	24	4.08	0.83
T76	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume	38	4.16	0.89	70	4.21	0.80	84	4.10	1.07	91	4.13	0.93	22	4.00	1.02
T77	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Tabular	37	4.24	0.80	67	4.09	0.92	82	4.11	1.09	89	3.89	1.06	23	4.04	1.02
T78	OCT: Understands/selects analysis protocols: Quantitative analysis - Retina: Retinal Thickness / Volume Chge	38	4.05	1.01	70	3.94	0.96	81	4.09	1.12	90	3.80	1.14	23	3.87	1.06
T79	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Tabular	34	3.85	1.21	65	3.63	1.14	75	3.91	1.18	73	3.03	1.19	21	3.62	1.24
T80	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Retinal Thickness / Volume Chge	35	3.80	1.21	65	3.48	1.15	74	3.80	1.24	74	3.05	1.16	21	3.38	1.24
T81	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness	37	4.16	0.96	68	4.13	1.01	84	4.21	1.05	76	3.47	1.22	22	3.68	1.13
T82	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Average	37	4.14	0.98	69	4.23	0.93	83	4.25	1.03	75	3.32	1.25	22	4.18	0.96

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		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T83	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Map	33	4.09	0.98	68	4.04	0.98	77	4.08	1.12	77	3.40	1.23	22	3.77	1.07
T84	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Chge	36	4.03	0.94	68	3.93	1.01	80	4.05	1.11	76	3.30	1.24	22	3.73	1.08
T85	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: RNFL Thickness Serial analysis	36	3.94	1.19	68	4.13	0.99	80	4.13	1.13	76	3.34	1.22	21	4.10	0.89
T86	OCT: Understands/selects analysis protocols: Quantitative analysis - Glaucoma: Optic Nerve Head	37	3.92	0.98	67	3.94	1.10	82	4.21	1.02	75	3.51	1.25	23	3.70	1.15
T87	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize	37	3.73	1.24	64	3.61	1.22	73	3.55	1.25	84	3.57	1.17	23	3.57	1.12
T88	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Align	38	3.68	1.14	68	3.93	1.01	73	3.74	1.11	85	3.75	1.14	23	3.48	1.08
T89	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Normalize & Align	36	3.75	1.20	63	3.48	1.20	68	3.63	1.17	84	3.71	1.16	21	3.33	1.11
T90	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Gaussi Smoothing	33	3.03	1.33	55	3.04	1.14	61	3.05	1.15	78	2.76	1.24	21	2.62	1.07
T91	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Medi Smoothing	31	3.16	1.37	57	3.04	1.12	61	3.03	1.14	76	2.79	1.24	20	2.60	1.05
T92	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Proportional	32	3.41	1.36	65	3.54	1.17	66	3.44	1.24	81	3.25	1.31	22	3.14	1.39
T93	OCT: Understands/selects analysis protocols: Image Processing Protocols - Retina: Sc Profile	32	3.47	1.34	62	3.27	1.12	69	3.29	1.23	80	3.34	1.30	22	3.14	1.36
T94	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize	33	3.52	1.37	62	3.48	1.18	68	3.56	1.20	69	2.97	1.27	18	3.11	1.23
T95	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Align	33	3.52	1.28	62	3.45	1.20	67	3.54	1.22	69	2.91	1.26	17	3.18	1.24
T96	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Normalize & Align	34	3.41	1.35	58	3.29	1.18	65	3.57	1.26	68	2.97	1.27	17	2.94	1.20
T97	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Gaussi Smoothing	30	3.13	1.38	55	2.96	1.15	59	3.08	1.19	68	2.65	1.19	17	2.41	1.12
T98	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Medi Smoothing	31	3.23	1.41	57	2.95	1.12	59	3.10	1.20	67	2.69	1.20	16	2.50	1.10
T99	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Proportional	29	3.45	1.35	59	3.10	1.16	61	3.23	1.22	69	2.78	1.20	17	2.94	1.25
T100	OCT: Understands/selects analysis protocols: Image Processing Protocols - Glaucoma: Sc Profile	32	3.38	1.34	59	3.00	1.16	63	3.40	1.24	66	2.94	1.30	19	2.95	1.39
T101	OCT: Understands function/properties of following: Controls: Chin/Forehead rest	38	4.58	0.68	73	4.59	0.60	86	4.50	0.84	95	4.65	0.61	24	4.29	0.86
T102	OCT: Understands function/properties of following: Controls: Table height	38	4.58	0.64	73	4.60	0.55	86	4.48	0.85	94	4.67	0.61	24	4.29	0.86
T103	OCT: Understands function/properties of following: Controls: Internal fixation device	37	4.54	0.77	73	4.66	0.56	85	4.58	0.75	95	4.61	0.72	24	4.46	0.83
T104	OCT: Understands function/properties of following: Controls: External fixation device	37	4.00	1.33	69	3.96	1.28	84	4.32	0.95	89	4.12	1.22	23	3.57	1.27
T105	OCT: Understands function/properties of following: Controls: Focus knob	38	4.66	0.63	73	4.62	0.64	85	4.60	0.73	94	4.57	0.73	24	4.42	0.88
T106	OCT: Understands function/properties of following: Controls: Video brightness	38	4.24	0.79	71	4.35	0.78	85	4.36	0.86	95	4.25	0.90	24	3.92	0.97

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		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T107	OCT: Understands function/properties of following: Controls: Video contrast	36	4.22	0.83	72	4.21	0.85	86	4.31	0.87	95	4.20	0.93	24	3.79	0.93
T108	OCT: Understands function/properties of following: Controls: OCT Image noise	38	4.11	0.92	70	4.24	0.84	84	4.29	0.89	93	4.35	0.78	24	3.92	0.93
T109	OCT: Understands function/properties of following: Controls: OCT Image rge	37	4.14	0.95	72	4.21	0.82	84	4.29	0.91	91	4.31	0.85	24	3.92	0.93
T110	OCT: Understands function/properties of following: Controls: Line length	37	4.32	0.82	70	4.40	0.86	82	4.09	1.11	94	4.43	0.84	24	4.21	0.93
T111	OCT: Understands function/properties of following: Controls: Line gle	36	4.25	0.81	70	4.37	0.82	83	4.08	1.12	95	4.40	0.82	24	4.21	0.88
T112	OCT: Understands function/properties of following: z offset: Auto	36	4.25	0.94	71	4.38	0.87	81	4.21	1.07	93	4.25	0.95	24	4.08	1.18
T113	OCT: Understands function/properties of following: z offset: Manual	37	4.16	0.93	71	4.38	0.78	77	4.31	0.96	90	4.10	1.10	24	4.29	1.04
T114	OCT: Understands function/properties of following: z offset: Position/move patient module	37	4.46	0.69	69	4.30	0.85	73	4.33	0.88	88	4.33	0.93	22	4.18	1.01
T115	OCT: Understands function/properties of following: Polarization: Auto	38	4.55	0.69	72	4.57	0.65	81	4.35	0.96	92	4.33	0.85	24	4.42	0.93
T116	OCT: Understands function/properties of following: Polarization: Mual	36	4.17	1.00	70	4.31	0.89	78	4.12	1.09	92	4.00	1.13	23	3.91	1.24
T117	OCT: Understands function/properties of following: Polarization: Resolution	37	4.38	0.86	71	4.24	0.89	83	4.10	1.10	93	4.34	0.79	24	3.88	1.08
T118	OCT: Interpretation of OCT: Retina: False color scale	36	3.97	0.88	67	3.76	1.07	72	3.63	1.22	89	3.69	1.02	21	3.62	1.16
T119	OCT: Interpretation of OCT: Retina: Center point	35	3.91	0.89	69	3.93	0.94	77	3.71	1.27	93	3.91	1.07	22	3.86	1.13
T120	OCT: Interpretation of OCT: Retina: Center thickness measurement	38	4.11	0.95	70	4.16	0.86	79	3.82	1.20	93	4.11	0.98	23	4.00	0.85
T121	OCT: Interpretation of OCT: Retina: Total macular volume	37	3.92	0.92	70	3.83	0.98	75	3.67	1.23	92	3.75	1.02	22	3.82	1.18
T122	OCT: Interpretation of OCT: Retina: Retinal map	38	4.16	0.86	70	4.20	0.93	82	3.87	1.15	92	4.24	0.88	23	3.91	1.08
T123	OCT: Interpretation of OCT: Retina: Measurement calipers	36	3.92	0.97	66	3.71	1.02	77	3.45	1.19	87	3.72	1.16	22	3.77	0.81
T124	OCT: Interpretation of OCT: Retina: Shadowing	33	3.58	0.90	63	3.68	1.09	67	3.30	1.21	82	3.44	1.12	21	3.33	1.02
T125	OCT: Interpretation of OCT: Retina: analysis artifacts/plotting errors/failures	36	3.94	0.86	65	3.88	1.13	77	3.73	1.21	88	3.90	0.95	22	3.91	1.06
T126	OCT: Interpretation of OCT: Retina: Signal strength	38	3.97	1.00	69	4.06	0.92	83	4.11	1.07	92	4.14	0.93	24	4.17	0.92
T127	OCT: Interpretation of OCT: Retina: +/- Center deviation	37	3.73	1.02	66	3.82	0.98	77	3.71	1.17	89	3.85	1.09	23	3.74	0.81
T128	OCT: Interpretation of OCT: Retina: Signal-to-noise ratio	37	3.54	1.04	67	3.67	0.86	79	3.62	1.20	88	3.58	1.05	22	3.59	0.91
T129	OCT: Interpretation of OCT: Retina: Accepted A-Sc%	35	3.54	1.07	63	3.60	0.96	73	3.52	1.24	86	3.45	1.17	21	3.29	1.01
T130	OCT: Interpretation of OCT: Optic Nerve: False color scale	34	3.62	1.07	68	3.68	1.15	70	3.50	1.26	71	3.14	1.21	20	3.45	1.19
T131	OCT: Interpretation of OCT: Optic Nerve: Disc reference points	34	3.68	1.12	68	3.81	1.11	76	3.70	1.18	72	3.25	1.11	19	4.11	1.10
T132	OCT: Interpretation of OCT: Optic Nerve: Surface sensitivity	33	3.55	1.00	64	3.55	1.11	71	3.48	1.23	69	3.00	1.12	19	3.74	1.05
T133	OCT: Interpretation of OCT: Optic Nerve: Disc area	36	3.69	1.19	68	3.79	1.11	81	3.78	1.10	71	3.30	1.22	20	3.85	0.99
T134	OCT: Interpretation of OCT: Optic Nerve: Cup area	35	3.74	1.22	67	3.81	1.13	82	3.79	1.10	73	3.37	1.24	19	3.79	1.03
T135	OCT: Interpretation of OCT: Optic Nerve: Rim area	36	3.72	1.19	67	3.75	1.13	81	3.74	1.09	70	3.30	1.22	19	3.58	1.22
T136	OCT: Interpretation of OCT: Optic Nerve: Cup/disc area ratio	36	3.78	1.10	67	3.84	1.11	82	3.76	1.15	74	3.43	1.25	20	3.75	1.02



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		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T137	OCT: Interpretation of OCT: Optic Nerve: Cup/disc horizontal ratio	35	3.63	1.06	67	3.72	1.15	82	3.60	1.18	71	3.35	1.22	20	3.65	0.93
T138	OCT: Interpretation of OCT: Optic Nerve: Cup/disc vertical ratio	35	3.66	1.06	66	3.67	1.15	82	3.61	1.16	71	3.35	1.22	20	3.65	0.93
T139	OCT: Interpretation of OCT: Optic Nerve: analysis artifacts	33	3.88	1.02	64	3.86	1.02	78	3.76	1.23	73	3.29	1.17	19	3.84	1.07
T140	OCT: Interpretation of OCT: Optic Nerve: Save current result	34	3.97	1.09	66	4.12	1.02	82	4.05	1.11	73	3.38	1.27	22	3.91	1.23
T141	OCT: Interpretation of OCT: Troubleshooting: Vibration	36	3.97	1.08	70	3.91	1.05	78	3.68	1.24	86	3.93	1.06	23	3.74	0.96
T142	OCT: Interpretation of OCT: Troubleshooting: Printer maintenance	38	4.00	1.14	71	3.97	0.97	85	3.93	1.16	91	3.98	1.09	23	4.00	1.00
T143	OCT: Interpretation of OCT: Troubleshooting: Patient tear film T 143	38	4.05	0.87	70	4.39	0.79	86	4.26	1.01	88	4.16	0.92	23	4.35	0.78
T144	OCT: Interpretation of OCT: Troubleshooting: Cle lens	38	4.45	0.86	71	4.51	0.67	86	4.40	0.96	91	4.51	0.71	23	4.57	0.59
T145	OCT: Interpretation of OCT: Troubleshooting: IOL	38	4.11	0.89	69	4.00	0.87	85	3.92	1.07	89	4.02	0.92	24	3.83	1.01
T146	OCT: Interpretation of OCT: Troubleshooting: Dilation	38	4.05	0.93	70	4.13	0.83	85	4.27	0.96	90	4.18	0.94	24	3.96	0.95
T147	OCT: Interpretation of OCT: Troubleshooting: Media opacities	37	4.14	0.98	72	4.36	0.77	85	4.24	0.97	91	4.25	0.93	24	4.38	0.77
T148	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment structures	20	4.35	0.93	42	3.88	1.19	55	3.93	1.25	56	3.43	1.20	16	3.88	1.02
T149	OCT: Anterior Chamber OCT: Demonstrates understanding of Anterior segment landmarks/terminology	20	4.35	0.93	42	3.88	1.23	55	3.95	1.25	56	3.46	1.13	16	3.94	1.00
T150	OCT: Anterior Chamber OCT: Demonstrates understanding of layers of cornea	20	4.05	1.00	39	3.69	1.20	54	3.72	1.32	55	3.33	1.12	16	3.81	0.98
T151	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber depth	20	3.95	1.05	34	3.32	1.41	46	3.70	1.26	53	3.15	1.20	14	3.71	1.14
T152	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber gles	20	3.90	1.12	34	3.32	1.41	46	3.72	1.24	53	3.09	1.21	14	3.64	1.22
T153	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Anterior chamber diameter	20	3.95	1.15	32	3.25	1.41	46	3.48	1.30	52	3.04	1.20	14	3.64	1.22
T154	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure flap thickness	19	4.00	0.88	32	3.34	1.31	42	3.33	1.37	51	2.90	1.19	14	3.64	1.22
T155	OCT: Anterior Chamber OCT: Understands/selects analysis protocols: Measure Anterior segment ocular structures: Measure stromal thickness	19	3.95	0.85	33	3.21	1.43	44	3.36	1.35	49	2.98	1.18	14	3.64	1.22
T156	Data/Image Magement: Storage utilization	37	4.22	0.79	71	4.14	0.96	85	4.12	1.13	88	4.07	0.89	23	4.09	0.79
T157	Data/Image Magement: Orgizes archival system	37	4.24	0.95	71	4.07	0.93	84	4.18	1.13	89	4.06	0.86	23	4.04	1.02
T158	Data/Image Magement: Coordinates network file trsfers for archiving/patient data base systems	36	4.17	0.94	65	3.86	1.16	81	4.01	1.18	84	3.90	0.90	22	3.91	0.81
T159	Data/Image Magement: Exports Images/data: to CD /DVD-Ram	36	4.11	1.09	66	4.05	0.94	81	4.11	1.12	87	4.06	1.04	23	3.83	1.19
T160	Data/Image Magement: Exports Images/data: to external USB device	33	3.91	1.01	66	4.12	0.95	67	3.75	1.26	81	3.63	1.29	22	3.55	1.26
T161	Data/Image Magement: Exports Images/data: floppy	32	3.41	1.36	50	3.10	1.34	66	3.48	1.24	68	3.29	1.35	19	3.21	1.13
T162	Data/Image Magement: Exports Images/data: Networks OCT	26	3.88	1.03	54	3.37	1.35	62	3.65	1.31	75	3.43	1.36	20	3.15	1.35

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		N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD	N	Mean	StdD
T163	Patient/Operator Safety: Adheres to Universal Precautions as defined by Centers for Disease Control/Prevention (CDC)	37	4.57	0.65	69	4.49	0.80	87	4.47	0.93	90	4.23	1.01	24	4.08	1.06
T164	Patient/Operator Safety: Observes Occupational Safety/Health Administration (OSHA)/National Institute for Occupational Safety/Health (NIOSH) regulations relating to OCT	37	4.46	0.65	68	4.49	0.78	87	4.47	0.87	92	4.20	1.04	24	4.08	1.06
T165	Patient/Operator Safety: Understands HIPAA confidentially/privacy regulations relating to OCT	37	4.54	0.65	68	4.57	0.68	87	4.60	0.81	92	4.47	0.87	24	4.17	1.09

## **APPENDIX L**

### **Final Content Outline**

#### **I. Applies the Principles of the Anatomy of the Eye**

- A. Demonstrates an understanding of anterior and posterior segment structures
- B. Demonstrates an understanding of the layers of the retina
- C. Demonstrates an understanding of optic nerve anatomy
- D. Demonstrates an understanding of anatomical landmarks and terminology

#### **II. Applies the Concepts of Pathology of the Eye to OCT findings**

- A. Recognize and identify the ocular manifestations of:
  - 1. retinal diseases
  - 2. optic nerve disorders
  - 3. systemic diseases
- B. Recognize and identify the clinical OCT findings of:
  - 1. diabetic retinopathy/macular edema
  - 2. macular degeneration/choroidal neovascular membrane
  - 3. central serous retinopathy/subretinal fluid
  - 4. cystoid macular edema/diffuse macular edema
  - 5. retinal holes: pseudo/lamellar/full thickness
  - 6. glaucoma
  - 7. papilledema/optic pit
  - 8. epiretinal membrane
  - 9. vitreomacular traction
  - 10. posterior vitreous detachment/weiss ring
  - 11. pigment epithelial detachment
  - 12. retinal detachment/retinoschisis
  - 13. drusen/ hard and soft exudates
  - 14. drusen, ONH
  - 15. pathologic myopia
  - 16. retinal nerve fiber layer defects
  - 17. venous/arterial occlusions
  - 18. tumors/nevi
  - 19. asteroid hyalosis/vitreous hemorrhage

#### **III. Patient Management**

- A. Informs patient of procedures to be performed.
- B. Answers patient questions concerning the procedure
- C. Establishes fixation
- D. Elicits cooperation from uncooperative or physically disabled patients
- E. Establishes/reviews patient records including:
  - 1. medical/surgical history
  - 2. ocular history
  - 3. photographic history

#### **IV. Optical Coherence Tomography (OCT)**

- A. Understands the use of OCT equipment and properties:
  - 1. Understands the function and components of the OCT machine including:
    - a. wavelength of light
    - b. limitations of machine
    - c. working distance
    - d. resolution
  - 2. Performs routine maintenance and equipment troubleshooting including:
    - a. cleaning equipment
    - b. software maintenance
  - 3. Understands and applies scanning protocols
    - a. Retina
      - 1. Macular thickness map/Radial Lines
      - 2. Fast macular thickness map
      - 3. Optic Disc/Fast Optic Disc
      - 4. RNFL thickness 3.4/Fast RNFL Thickness 3.4
      - 5. RNFL map/Fast RNFL map
      - 6. Nerve head circle
      - 7. Line
      - 8. Circle
      - 9. Raster Line
      - 10. Cross hair
      - 11. Radial lines
      - 12. X-line
      - 13. Custom Scan
      - 14. Repeat
    - b. Glaucoma
      - 1. Macular thickness map/Radial Lines
      - 2. Fast macular thickness map
      - 3. Optic Disc/Fast Optic Disc
      - 4. RNFL thickness 3.4/Fast RNFL Thickness 3.4
      - 5. RNFL map/Fast RNFL map
      - 6. Nerve head circle
      - 7. Line
      - 8. Cross hair
      - 9. Custom Scan
      - 10. Repeat
  - 4. Understands and selects analysis protocols
    - a. Quantitative analysis - Retina
      - 1. Retinal Thickness
      - 2. Retinal Map
      - 3. Retinal Thickness / Volume
      - 4. Retinal Thickness / Volume Tabular
      - 5. Retinal Thickness / Volume Change
    - b. Quantitative analysis – Glaucoma
      - 1. Retinal Thickness / Volume Tabular
      - 2. Retinal Thickness / Volume Change

3. RNFL Thickness
4. RNFL Thickness Average
5. RNFL Thickness Map
6. RNFL Thickness Change
7. RNFL Thickness Serial Analysis
8. Optic Nerve Head
- c. Image Processing Protocols – Retina
  1. Normalize
  2. Align
  3. Normalize & Align
  4. Proportional
  5. Scan Profile
- d. Image Processing Protocols – Glaucoma
  1. Normalize
  2. Align
  3. Normalize & Align
  4. Scan Profile
5. Understands the function and properties of the following:
  - a. Controls
    1. Chin/Forehead rest
    2. Table height
    3. Internal fixation device
    4. External fixation device
    5. Focus knob
    6. Video brightness
    7. Video contrast
    8. OCT Image noise
    9. OCT Image range
    10. Line length
    11. Line angle
  - b. z offset
    1. Auto
    2. Manual
  - c. Position/move patient module
  - d. Polarization
    1. Auto
    2. Manual
  - e. Resolution
- B. Data and Image Management
  1. Storage utilization
  2. Organizes archival system
  3. Coordinates network file transfers for archiving/patient data base systems
  4. Exports Images and data:
    - a. to CD /DVD-Ram
    - b. to external USB device
    - c. floppy
  5. Networks the OCT

## **V. Interpretation of OCT**

### **A. Retina**

1. False color scale
2. Center point
3. Center thickness measurement
4. Total macular volume
5. Retinal map
6. Measurement calipers
7. Shadowing
8. Analysis artifacts/plotting errors/failures
9. Signal strength
10. +/- Center deviation
11. Signal-to-noise ratio
12. Accepted A-Scan%

### **B. Optic Nerve**

1. False color scale
2. Disc reference points
3. Surface sensitivity
4. Disc area
5. Cup area
6. Rim area
7. Cup/disc area ratio
8. Cup/disc horizontal ratio
9. Cup/disc vertical ratio
10. Analysis artifacts
11. Save current result

### **C. Troubleshooting**

1. Vibration
2. Printer maintenance
3. Patient tear film
4. Clean lens
5. IOL
6. Dilation
7. Media opacities

## **VI. Patient/Operator Safety**

- A. Adheres to Universal Precautions as defined by the Centers for Disease Control and Prevention (CDC)
- B. Observes Occupational Safety and Health Administration (OSHA) and The National Institute for Occupational Safety and Health (NIOSH) regulations relating to OCT
- C. Understands HIPAA confidentiality and privacy regulations relating to OCT