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## **A Descriptive Analysis of Predoctoral Surgical Requirements in US Dental Schools in 2020**

### **Abstract:**

**Objectives:** This study aims to describe surgical graduation requirements in US dental schools in 2020, including changes made due to the COVID-19 pandemic.

**Methods:** Representatives of CODA-approved predoctoral dental programs in the US (n=66) received a 13-item questionnaire about operative and observational surgical requirements. Responses were assigned values to tabulate a surgical score (0 to 8-point scale) as a proxy for required surgical experience, and statistical analyses were performed to explore for predictors.

**Results:** Surveys were returned by 97% (64/66) of programs with complete data from 62.5% of responding institutions. In periodontics, 6.8% of programs require students to perform periodontal surgery, 63.8% to assist, and none required a competency assessment in periodontal surgery. In OMS, 23.3% of programs have numerical requirements in performance of surgical extractions, 35% require an operating room experience, and 51.9% have a competency assessment involving a surgical procedure. Modification to surgical and non-surgical graduation requirements due to COVID-19 were reported by 51.6% and 52.5% of programs, respectively.

The mean surgical score was  $1.73 \pm 1.2$  (range = 0-4) out of 8 possible points. This was not predicted by class size or the presence of post-graduate surgical programs. The presence of post-graduate surgical programs roughly doubled the likelihood of requiring an observational experience in surgery.

**Conclusions:** As of 2020, US dental programs require a small fraction of surgical experiences available to students. Class size is not a predictor of required surgical experience. The presence

of post-graduate surgical programs increased the likelihood of a required observational experiences.

**KEYWORDS:**

Oral and Maxillofacial Surgery < Clinical Skills/Topics

Periodontics < Clinical Skills/Topics

Competency based education < Professional Interest

Undergraduate Dental < Education

Clinical Exam < Clinical Skills/Topics

Community-Based Dental Education < Community

Teaching Assessment < Teaching

Teaching Methods < Teaching

**AUTHOR DESIGNATED KEYWORDS:**

Graduation Requirements

Numerical Requirements

**Surgical Requirements**

Competency Exams

## **INTRODUCTION**

Education in dentistry began as informal apprenticeships until the 16th century when European dental guilds began offering formal, although heterogeneous programs. The modern approach of dental schools having affiliations with universities began with the Baltimore College of Dental Surgery in 1840. Standardized criteria for accreditation of dental schools emerged during the 20<sup>th</sup> century, and in parallel so too did requirements for dental licensure. The goal on both fronts was to set a universal standard for quality and safety of the dental services provided to the public.<sup>1</sup>

The Commission on Dental Accreditation (CODA) has been the sole accrediting body for US dental programs since 1975, and surveys on dental education have shown US dental schools universally use some combination of didactics, simulation, and direct patient care in their curricula.<sup>2</sup> CODA gives a broad definition of the goals for these curricula: specifically, that students should be educated to a level of ability and knowledge to begin unsupervised dental practice.<sup>3</sup>

A 2008 survey of 931 course directors from 53 US dental schools found that programs typically followed a checklist system, which tended to include the following five mainstays of student performance evaluation: multiple-choice testing, lab practicals, daily grades, clinical competency exams, and numerical procedural requirements.<sup>4</sup> Although multiple models of assessing readiness for clinical practice have been described including comprehensive care curricula, competency-based advancement, and clinical group practices<sup>5,6</sup>, numerical requirements were

still listed as part of the overall assessment of students' readiness to enter practice in 79% of the responses that could be evaluated (Albino 2008)<sup>4</sup>. This number has not been re-evaluated more recently in the literature.

Even less has been written about predoctoral surgical education in dentistry. In OMS, clinical emphasis tends to be on local anesthetic, simple extractions, minor pre-prosthetic surgery, oral mucosal biopsies, and recognizing indications for referral.<sup>7</sup> In periodontics, a 2019 study by Katsaros found that it was most common for US dental students to be involved in diagnosis and non-surgical management of periodontal diseases, with only 6.1% of programs requiring students to perform periodontal surgery<sup>8</sup>.

CODA's Accreditation Standards for Dental Education Programs require graduates to be "competent in hard and soft tissue surgery," and schools are allowed to decide what metrics are used to measure this competency.<sup>3</sup> Our study began with a pilot sample of graduation requirement documents from six programs, in which we noted that the most robust surgical experience came from a program with a small class size. Thus, we hypothesized more direct guidance in surgery may be possible when there are fewer students in a class. We also noted that when a school had post-doctoral training programs in either OMS or periodontics, this had the potential either to increase or decrease students' experience in surgery: either by increasing exposure or by outcompeting, respectively. Community-based dental education (CBDE) programs also tended to provide meaningful experiences, particularly in surgical exodontia.

Our study aims to describe and analyze the state of predoctoral surgical graduation requirements during the 2019-2020 academic year. This includes queries about the numerical requirements in both oral and maxillofacial surgery and periodontics, assisting or observational requirements,

suturing, competency assessments, and community-based dental education experiences.

Additionally, we describe the state of academic dentistry immediately prior to the emergence of COVID-19 as well as its response to the pandemic.

## **METHODS:**

The research protocol for this study was approved by the XXX University Institutional Review Board (IRB #00021021). A 13-item questionnaire-based survey was developed, which consisted of questions pertaining to ~~the~~ surgical graduation requirements for predoctoral students during the academic year 2019-2020. The ~~main~~ topics explored in the survey were:

- Numerical graduation requirements in oral and maxillofacial and/or periodontal surgery
- Competency assessments in oral and maxillofacial and/or periodontal surgery
- Assisting or observational requirements in periodontal surgery or operating rooms
- Numerical requirements or competency assessments in suturing
- The presence of a community-based dental education (CBDE) component and whether procedures done during CBDE counted towards graduation requirements
- The effect of the COVID-19 pandemic on surgical and non-surgical requirements for graduation

A complete copy of the survey is included in Appendix A with stars placed in front of the 8 core questions we included in our summary statistic (surgical score, described below).

The current 66 CODA approved predoctoral dental programs in the US were identified from the American Dental Association website.<sup>9</sup> Academic deans, predoctoral directors of OMS and

Periodontics were identified through the institutions' websites and contacted via email and/or phone. If academic deans or predoctoral directors were unreachable, staff members at the institutions were asked which alternate faculty to contact. In some cases, students who were either on the executive committees (e.g. class president, vice president, etc.) or who had volunteered their contact information on a document meant to discuss graduation requirements nationwide were contacted.<sup>10</sup> Telephone calls were made to the administrative offices of dental schools for which contact information on the website was incorrect. All recruitment was done using an IRB-approved recruitment script either by telephone or email, and participants were given a complete information sheet. Voluntary participation in the study doubled as consent.

Surveys were collected between 04.10.2020 and 07.16.2020 using the electronic survey tool Qualtrics through a secure server. A total of 296 invitations were sent, inclusive of all correct and incorrect contact information. Each contact point (email address or phone number) was contacted up to three times until the end of the survey period, with an emphasis on contacting representatives of programs for which we did not yet have adequate data.

In addition to the 13-item survey, respondents had the option of attaching rubrics, curriculum guidelines or other supporting documentation for their answers. These documents were scanned to corroborate the answers given in the survey. When necessary, clarifications were obtained either by telephone or email. Redundant data did not affect tabulation. Any data that was missing, incomplete, or conflicting was clarified either by direct communication or by referencing supporting documentation. Any data that could not be clarified in one of these ways was excluded from analysis.

Additional data was collected from the programs' websites. This included: class size, ADEA chapter district, and presence or absence of a post-graduate residency program in periodontology or oral maxillofacial surgery.

Data were tabulated in Microsoft Excel and summarized in descriptive format.

We then took the raw data from the survey responses and compiled them to create a single summary statistic for each program for which we had complete data on *all* of the 8 core questions. This included the following topics:

- Numerical Requirement in Performance of Periodontal Surgery
- Students Must Assisting Periodontal Surgery
- Competency Exam in Periodontal Surgery (excludes scaling and root planing)
- Numerical Requirement in Surgical Extractions
- Operating Room Requirement
- Competency Exam in Oral Surgical Procedure (excludes simple extraction)
- Numerical Requirement in Suturing on a Patient
- Competency Exam in Suturing

We called this summary statistic the “surgical score.” Its intent was to summarize our own survey data as a single number. It is not intended to predict clinical success of the graduates from the surveyed programs. CBDE was excluded from the score because available data on surgical experience during these rotations was scant. Point allotment was designed to give more weight to requirements that involved performance of surgical procedures and less weight for observational experiences. Figure 3 outlines criteria for surgical score point assignment as well as the



proportion of programs receiving points in each category. One full point was given if there was at least one required performance of a surgical extraction or periodontal surgery. Two points were given if that numerical requirement was greater than 1 experience. Competency assessments were then reviewed, and a full point was given in periodontics and oral and maxillofacial surgery if the assessments required incision through soft tissue, elevation of a gingival flap, sectioning of teeth, bone removal or grafting. Half points were given for assisting or observational surgical experiences and for either numerical or competency requirements in suturing. This summary statistic represents a proxy for a program's overall required experience in surgery for students, and was therefore used as the main outcome measure in our study. Data were analyzed using GraphPad Prism (GraphPad Software, San Diego, CA) to assess the relationships between surgical score and the following:

Class size (Pearson's R correlation)

Presence of post-graduate oral surgery program (Mann-Whitney U)

Presence of post-graduate periodontics program (Mann-Whitney U)

Using chi-square analysis, we evaluated whether the presence of periodontics or OMS residency programs were predictors of observational requirements in surgery and whether there was a relationship between the surgical numerical requirements and competency assessments in OMS.

## **RESULTS:**

We received a total of 95 responses to the survey, representing 64 of the 66 programs, which totaled a 97% representation rate of US dental schools. Additionally, 27 programs (42%) submitted supporting documentation for their graduation requirements that were used to

corroborate survey responses. Most responders were predoctoral directors, though other participants included academic deans, other faculty members, or students (Figure 1). A total of 40 programs responded to the survey with complete data, while partial data was obtained from 24 programs. Of those with partial data, we had adequate data to calculate a surgical score for an additional 5 programs, allowing calculation of a surgical score for 45 programs (70.3%). A total of 6 data points regarding surgical competency assessments were not able to be clarified and were thus not included in our analysis.

With regards to periodontal surgical requirements, only 6.9% of responding institutions reported a numerical requirement in performance of periodontal surgery and none reported requiring a competency assessment in periodontal surgery. Most programs (63.8%) reported students were required to assist during periodontal surgery; this requirement ranged from 1 to 12 assists.

Regarding OMS, 23.3% of responding programs reported a numerical requirement for surgical extractions, and this ranged from 1 to 10 procedures. 52.9% require a competency assessment in a surgical procedure not including simple extractions. Additionally, 35% of responding schools reported an observational requirement in an operating room setting.

In either periodontics or OMS, 8.2% of responding programs report a numerical requirement in suturing, and 39.3% require a suturing competency assessment either in a lab or clinic format.

Fifty-eight programs (95%) reported having a community-based dental education (CBDE) component as part of their required curricula, and procedures done during the CBDE rotation count toward overall numerical requirements in 29.3% of programs. As a response to the COVID-19 pandemic, 51.7% of programs reported modifications in surgical graduation

requirements for the class of 2020, compared to 52.5% for non-surgical requirements. These descriptive data are laid out graphically in Fig 2.

The surgical score was calculated using data collected from the survey's eight core questions answered by 45 programs. On a scale of 8 possible points, the mean  $\pm$  SD surgical score among schools was  $1.73 \pm 1.2$  (n = 45; range 0-4). The point assignment rubric and score distribution are laid out in Figure 3. Class size was not found to be a predictor of surgical score (Pearson's R = -0.0698, p=.65).

The presence of graduate programs in OMS and periodontics were also not found to be predictors of surgical score (p=.91 and .74, respectively); however, they roughly doubled the likelihood of requiring an observational experience in their field (p=.11 and .06, for OMS and periodontics respectively) (Table 1). Additionally, there was a significant correlation between the presence of surgical numerical requirements and surgical competency examinations in OMS (p=.02).

Data for surgical score calculation were well distributed among the eleven ADEA districts. No district had fewer than 3 schools in the data set, with district 1 having the highest mean surgical score of 2.875 and district 7 the lowest score of 1.0 (Fig 4). We hypothesized there may be regional trends in required surgical education, and although numbers are too tightly distributed to reach statistical significance, there appears to be a trend of more required surgical experience in eastern programs compared to western programs.

## **DISCUSSION:**

Our study utilized a method of data collection that allowed for multiple ways of obtaining data, allowing us to meaningfully represent the state of predoctoral surgical education in 2019-2020.

Our descriptive data draws from all 64 (97%) responding programs, with each question having its own N of completed responses. A common reason a piece of data was excluded was inadequate description of a competency exam to discern whether it **required** incision through soft tissue, elevation of a gingival flap, sectioning of teeth, bone removal or grafting. We collected data from 97% of predoctoral dental programs and That said, we were able to collect enough the data on from our 8 core topic questions list and to calculate a surgical score for 45 (70.3%) of the responding programs. We chose to focus on requirements for graduation both to describe the bare minimum experience for new dentists and because lists of requirements were easier to obtain and likely more reliable than reports of typical or average experience. Reports of typical experience would likely have a bias toward the experience of the individual filling out the survey. We chose to allow multiple types of respondents, and in doing so we accepted having heterogeneous sources in favor of having nearly complete representation of programs. Limiting respondent-type would have greatly decreased the completeness with which we were able to describe the current state of required surgical education.

The surgical score in our study was devised to create a single numerical way to summarize the results of our survey. Importantly, we did not attempt to externally validate this number as a marker for success in clinical practice. We do feel the score gives the reader a composite numerical value from the survey and allows us to assess for trends and associations with possible predictors of required surgical experience. Additionally, as our study is cross-sectional, if this score were utilized in future studies, it can be used to assess trends over time. We chose not to

report individual programs' scores, as the goal of the surgical score was not to compare one program to another, but rather to create a single quantitative way to describe the data collected in our study. What we found is that predoctoral dental programs require only a small amount of experience in surgery, with a mean surgical score of 1.73 on our scale, and no school scoring more than 4 of a possible 8 points. Notably, of the 8 topics we examined on the core topic list for calculation of the surgical score, 7 of them were required by four or more schools, indicating these requirements are, in fact, achievable.

The most common way schools received points toward their surgical score was by requiring assisting in periodontal surgery (63.8%). The next most common way was an oral surgery competency assessment that involved making an incision, elevation of a gingival flap, sectioning of a tooth, bone removal or grafting, and/or suturing (52.9%). The least common was a competency assessment in periodontal surgery (which no programs required).

Regarding periodontal surgery, our results are consistent with those found by Katsaros (2019) that dental students are largely involved in the diagnosis and non-surgical management of periodontal diseases.<sup>8</sup> In the Katsaros study, 26.4% of responding schools reported dental students were allowed to perform periodontal surgery but only 6.1% required it. All of the participating programs allowed students to assist faculty or residents in these surgical procedures, and 69.7% required assisting as part of the curriculum. This fairly low exposure to periodontal surgery in our study and the Katsaros study is in contrast to previous findings by Radentz (1991) in which 97% of the programs participating in that survey reported students performing some form of periodontal surgery, most often gingivectomy or gingivoplasty.<sup>11</sup> This discrepancy may reflect changes in trends over time or differences in methods of data collection.

Regarding oral and maxillofacial surgery, the most common surgical procedure to which students were exposed and tested on is a surgical extraction, although competency exams were often described in alveoloplasty, incisional biopsies, or torus removal. When we found that 23.3% of responding programs had a numerical requirement in surgical extractions but 51.9% had a competency examination involving a surgical procedure, we examined whether there was a predictive relationship between the two. Using chi-square analysis, we found that there was a significant relationship ( $p=.02$ ) between the presence of a surgical competency exam and numerical requirements involving a surgical procedure. This shows that programs that required a certain number of surgical procedures tended to also have surgical competency exams, whereas programs without surgical numerical requirements also tended not to have surgical competency exams. Although there has been a trend in dental education to shift from numerical requirements to competency exams<sup>4,6</sup>, our findings suggest this may not be as true in the surgical subspecialties. Of the 38 programs reporting no surgical numerical requirements, 58% also had no competency exams involving a surgical procedure. With regards to suturing, competency assessments were reported by 39.3% of responding programs (on patients or in a lab), though numerical requirements for suturing were less common (8.2%).

~~Our survey did not specifically ask about management of impacted teeth. Ali (2014) found that in the UK, only a small minority of graduates must demonstrate competency in third molar extractions.<sup>12</sup> Thirty five percent of our surveyed programs described an operating room requirement, and much like Edwards (2012) found these operating room experiences tend to be observational in nature rather than hands-on.<sup>13</sup> In Turkey, a 2019 survey of senior dental students indicated they lacked self-confidence in performing surgical extractions, recognition of~~

~~malignancies, or the ability to differentiate between pain of odontogenic and non-odontogenic origin.<sup>14</sup> This supports the notion that in the US and Europe, graduating general dentists' education involves only a small amount of exposure to the fundamentals of oral and maxillofacial surgery.~~

Although our pilot sample demonstrated a more robust surgical experience in a program with a small class size, we did not find any association between class size and surgical score in our complete sample. Additionally, we found that the presence of a postgraduate surgical program (oral surgery and/or periodontics) nearly doubled the likelihood that the predoctoral program required an observational experience in surgery but did not significantly change the overall required surgical experience (surgical score).

Nearly all (95%) of programs who responded to the CBDE questions reported having this as a required rotation. Bean (2007) reported that students in the Ohio State University CBDE program performed more extractions during this rotation than during their time on the main campus.<sup>15</sup> It is likely that the presence of the CBDE component in curricula is contributing meaningfully to students' surgical experience, and the literature would benefit from more detailed descriptions of these experiences. Due to the heterogeneity of data on surgical experience within the CBDE, we opted not to include these data in our surgical score calculation.

While both dental school graduation requirements and licensure exams often have modest surgical components, a license to practice dentistry gives clinicians permission to perform a broad scope of surgical manipulation of the mouth. This does beg the question of just how much surgery general dentists are performing. Many studies have examined this, and the results vary by region and on the type of predoctoral training received.<sup>18-21</sup> A 2015 survey of 2,367 general

dentists across the US found that 64% (n=1,473) routinely performed surgical and non-surgical extractions in their practices, while 6% reported routinely performing surgical periodontal procedures. Only 5% reported not performing extractions, and 69% reported not performing any form of periodontal surgery in their practices.<sup>20</sup>

We are already in the process of very carefully re-evaluating the licensure requirements in the US. Most scholars on the topic find the live-patient-based exams to have flaws in both ethics and utility, and many believe a portfolio-based and/or Objective Structured Clinical Examination (OSCE)-based pathways to licensure to be superior.<sup>16, 17</sup> The current authors believe that if a dental license allows a dentist to perform surgery, both our licensure and dental school graduation requirements should ensure patient safety and good outcomes in the process.

When the novel coronavirus quickly spread around the world in early to mid-2020, dental schools had to decide how best to educate students in the face of limited clinical time secondary to lockdowns and social distancing protocols.<sup>22,23</sup> The present study found that roughly half of responding programs modified graduation requirements for the class of 2020 in both non-surgical and surgical fields. Some respondents reported use of online, case-based discussions while others reported substituting patient-based assessments with written or oral examinations based on clinical vignettes. Some programs reported that most or all of the graduating class had completed their numerical requirements by the time COVID shutdowns began, and thus no curriculum changes were necessary for the class of 2020. It would be interesting to see whether changes made for this class will still apply to the classes of 2021, 2022, and beyond. The readiness for the dental graduates whose training was affected by COVID-19, along with how



effective the novel curriculum changes have been, is an active area of discussion within the ADEA community.<sup>24</sup>

Some limitations to our study include the heterogeneous data sources, i.e. different types of respondents. However, this is what allowed us to record data from nearly every program in the United States. We received formal curriculum/graduation checklist documents from 27 of the 64 (42.2%) responding programs. Although we did not do a formal comparison of data obtained through the documents versus the survey, we did not find any patterns of large inaccuracies.

Critics of our study may rightfully ask questions about assignment of point values for the development of our surgical score. For instance, programs may require a certain number of completed procedures before students are allowed to challenge a competency assessment, and the calibration of faculty grading these assessments is critical to the quality of the assessment. Individual programs may argue that their competency assessment is more meaningful than the one point it was assigned in our surgical score. This is why we chose not to report individual schools' scores, as the goal of the surgical score was not to compare one school to another, but rather to create a single quantitative way to describe all of the qualitative data collected in our study.

Importantly, our data represent only required experiences in surgery, and we recognize schools may offer students a multitude of additional experiences during their training. Future studies should aim to better catalogue what the actual experience in surgery is for dental graduates and to compare this against required experiences. Additionally, it would be useful to gather these data for multiple classes and assess trends over time.

The current authors believe US dental school curricula in surgery can be made more robust by including any or all of the requirements laid out in our core topic list, including numerical requirements, competency assessments, and observational experiences in both periodontal and oral and maxillofacial surgery. We believe a single, versatile graduation requirement that would meet the CODA goal of competence in surgery would be a competency assessment in the design, incision, elevation, retraction, and closure of a full-thickness mucoperiosteal flap. This procedure has application for exodontia, pre-prosthetic surgery, dental implant placement, bone grafting, and periodontal surgery, and it would incorporate nearly all of the skills discussed in our study.

## **CONCLUSIONS**

This report suggests that in 2020, US dental schools require only a small fraction of surgical experiences available to predoctoral students. Class size is not a predictor of required surgical experience. The presence of post-graduate surgical programs does not significantly affect the overall required surgical experience but increases the likelihood of a required observational experience in surgery.

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## **APPENDIX A**

Please complete the following 13-item survey. Questions 1-11 refer to pre-doctoral graduation requirements prior to the COVID-19 pandemic. Questions 12 and 13 examine ongoing changes due to the disease.

What institution do you represent?

What is your title?

Pre-doctoral director of periodontics

Pre-doctoral director of oral surgery

Academic dean

Faculty (not a pre-doctoral director)

Student

Other staff member (please specify)

What is your e-mail address?

1. Is there a single document or rubric with all numerical and competency based requirements for graduation from dental school?

If yes, our study can be completed by simply uploading the document here, by sending this document to [predocsurgerystudy@ohsu.edu](mailto:predocsurgerystudy@ohsu.edu), or by delegating a staff member to do so.

Yes

No

Don't know

If applicable, please upload the document here:

Is there an admin staff member you would like to delegate to upload/email this document? If yes, please enter their name, email address, and phone number below.

Yes

No

Don't know

The following questions relate to PREDOCTORAL periodontal surgical requirements only:

| \*2. Is there a numerical graduation requirement for periodontal surgery? (This does not include scaling and root planing)

If yes, how many surgeries must students perform?

Yes

No

Don't know

| \*3. Are students required to assist in a certain number of periodontal surgeries?

If yes, how many?

Yes

No

Don't know

| \*4. Is there a set of competency assessments in periodontics?

If yes, please list or upload a document.

Yes

No

Don't know

Please upload any documents or rubrics with all numerical and competency-based requirements for periodontal surgery:

The following questions relate to PREDOCTORAL oral surgery only:

Please upload any documents or rubrics with all numerical and competency-based requirements for oral surgery:

\*5. Is there a numerical graduation requirement for surgical extractions? ~~Text Wrapping Break~~ If yes, how many surgical extractions must each student perform?

Yes

No

Don't know

\*6. Is there an operating room requirement in oral surgery?

Yes

No

Don't know

\*7. Is there a set of competency assessments in oral surgery?

If yes, please list or upload a document.

Yes

No

Don't know

The following questions relate to PREDOCTORAL requirements in both periodontics and oral surgery:

| \*8. Is there a numerical requirement in suturing?

If yes, what is it?

Yes

No

Don't know

| \*9. Is there a competency assessment in suturing?

Yes

No

Don't know

10. Is there a Community-Based Dental Education component to the curriculum?

Yes

No

Don't know



11. Does work done during Community-Based Dental Education count toward numerical requirements?

Yes

No

Don't know

12. What, if any, changes to surgical graduation requirements have been made or are planned in light of the COVID-19 pandemic?

Graduation requirements unchanged

Graduation requirements reduced

Other (please specify)

Don't know

13. What, if any, changes to non-surgical graduation requirements have been made or are planned in light of the COVID-19 pandemic?

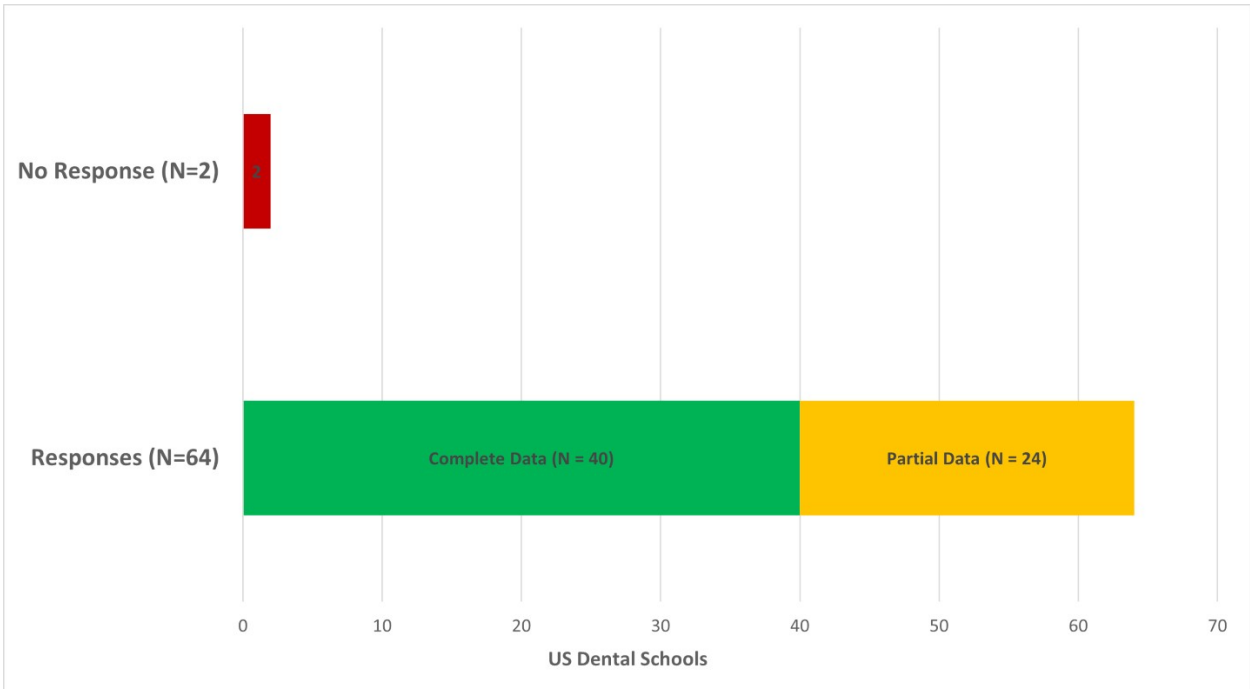
Graduation requirements unchanged

Graduation requirements reduced

Other (please specify)

Don't know

## Fig. 1 Program Responses



### TYPES OF RESPONDERS (N=95)

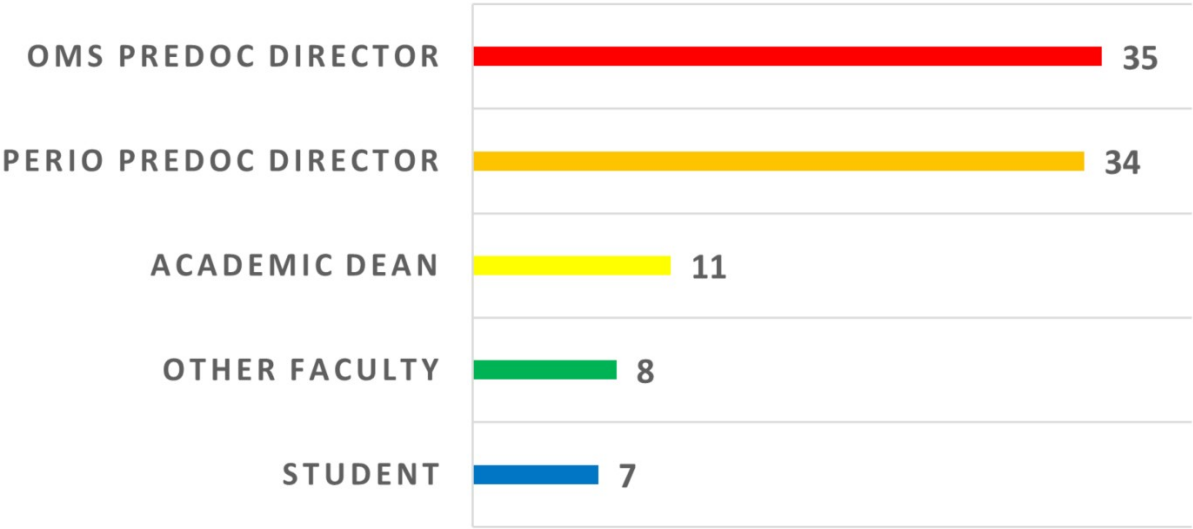


Figure 2: Survey Results Graphical Summary

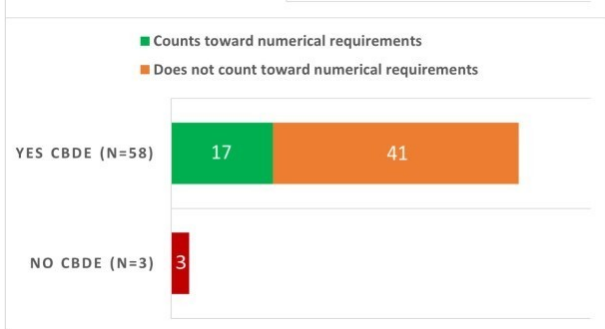
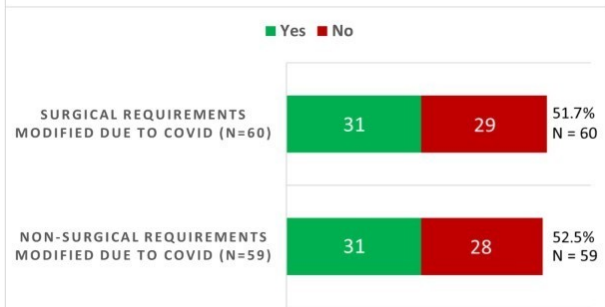
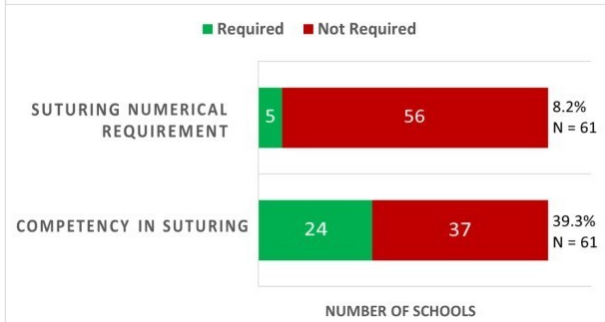
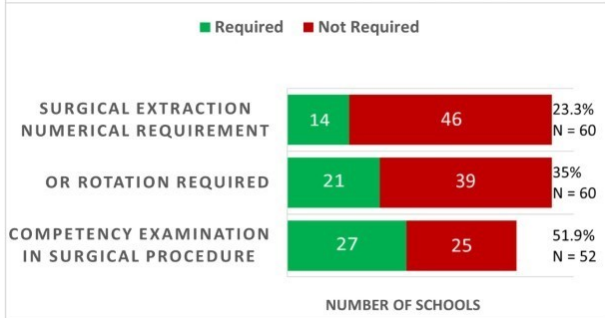
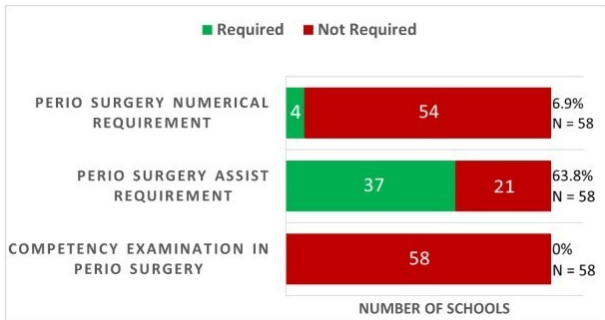


Fig. 3 Surgical Score Point Assignment Rubric and Score Distribution

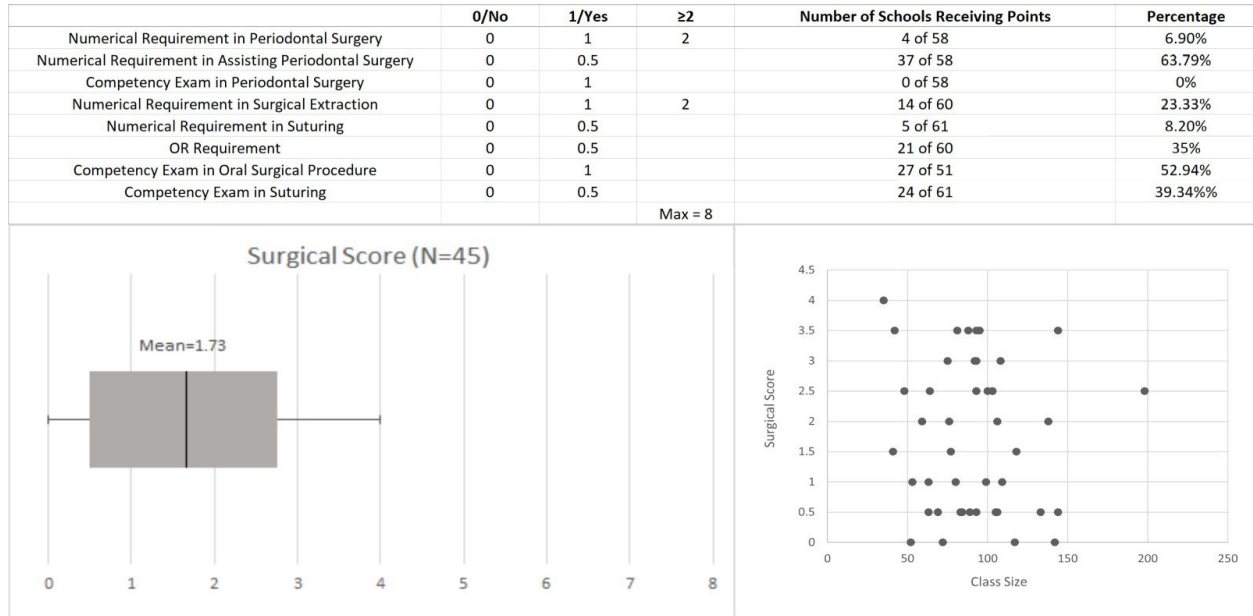


Table 1. Residency Program as a Predictor of Required Observational Experience

<b>Residency Program as a Predictor of Required Predoctoral Observational Experience</b>				
<b>OMS</b>	<b>OR Req Y</b>	<b>OR Req N</b>	<b>Required Observational Experience</b>	<b>p-value</b>
OMS Residency Y	18	26	40.90%	0.11
OMS Residency N	3	13	18.75%	
<b>Perio</b>	<b>Perio Assist Y</b>	<b>Perio Assist N</b>		
Perio Residency Y	31	13	70.45%	0.06
Perio Residency N	6	8	42.86%	

Fig. 4 ADEA Chapter Districts Ordered by Surgical Score

