



# PHASE I & II EXAMINATION INFORMATION FOR SMALL ANIMAL CANDIDATES

Reviewed and revised 10/11/23

This version is current for the Phase 1 and Phase 2 2023 Examinations.

**Candidates:** The Examination Security Form (EXAM-950) is now a separate file, available from the Preparing for the AVDC Examination link on Resident Resources section of the AVDC web page. The form is to be signed and returned (via mail, fax, or email) to the AVDC Executive Secretary by October 31<sup>st</sup>, the year before the examination for the Phase I examination in January, and by March 1<sup>st</sup> for the Phase II examination in June.

## Table of Contents

<u>Equine and Non-Species-Specific Examinations.....</u>	<u>2</u>
<u>Disabilities and Other Health Issues .....</u>	<u>2</u>
<u>Examination Eligibility and Format, Dates and Location of the Examination .....</u>	<u>2</u>
<u>Examination Fees .....</u>	<u>3</u>
<u>Phase I - Multiple Choice Question Examination .....</u>	<u>4</u>
<u>162. Interpretation of advanced imaging studies of the head and neck (CBCT, CT, MRI) .....</u>	<u>9</u>
<u>Phase II (Practical Examination).....</u>	<u>10</u>
<u>Possible Practical Examination (Phase II) Procedure List .....</u>	<u>22</u>
<u>Reasons for Failure of Practical Examination Procedures .....</u>	<u>24</u>
<u><i>Examples of exam scoring criteria for a variety of procedures are provided. ....</i></u>	<u>27</u>
<u>Suggested Resource List for Candidates and Residents .....</u>	<u>30</u>
<u>Passing Score, Examination Results, Repeat Examinations .....</u>	<u>34</u>
<u>Examination Security and Candidate Misconduct .....</u>	<u>36</u>
<u>AVDC POLICY ON APPEAL OF ADVERSE DECISIONS.....</u>	<u>36</u>

## **Equine and Non-Species-Specific Examinations**

This Examination Information document includes details for the Small Animal AVDC examination in 2024. Details of the Equine examination are available in a separate Equine Examination document.

**This document contains various areas where there is information specific to the 2024 examination. Those areas are highlighted in GREEN and may change yearly.**

## **Disabilities and Other Health Issues**

Within the constraints of an examination environment requiring maintenance of anonymity of the candidates and use by the candidates of equipment during the practical examination, AVDC will endeavor to accommodate disabilities or other health concerns that are made known to the AVDC prior to the examination. Any health-related information you elect to submit will be held in confidence. A separate Disability Accommodation Request document and form (EXAM-960) is available on the Preparing for the AVDC Examination link on Resident Resources section of the AVDC web page.

## **Examination Eligibility and Format, Dates and Location of the Examination**

Veterinarians become eligible to take the AVDC certification examination upon successful completion of an AVDC-approved training program and approval of a credentials application. The examination consists of two Phases administered separately.

**The Phase I multiple-choice exam will be administered remotely using a computer based testing platform called Examsoft on Thursday, January 11<sup>th</sup> and Friday, January 12<sup>th</sup>, 2024, for all candidates.** Two security features of Examsoft, ExamID, and ExamMonitor, will be used to verify your identity (ExamID) and record your audio, video, and screen during the exam (ExamMonitor).

**Phase II is the Practical examination, requiring candidates to perform procedures on cadavers, which is scheduled to be given at the Viticus Center, Las Vegas, NV over the course of the week of June 8-14, 2024.**

For veterinarians who became candidates in 2014 or later, entry to Phase II will be limited to candidates who have passed the Phase I examination. Any individual who fails the Phase I examination three times is no longer a candidate for the AVDC examination (except as noted under 'Repeat Examinations' on pages 13 and 14 of this document).

Individuals who became candidates in 2013 or earlier, and who have previously taken and failed one or more parts of the examination and have eligibility for an additional

attempt, will be allowed to take any of the part of the examination that they have not yet passed.

### **Tentative dates for future examinations:**

The Phase I second or third Thursday and Friday in January each year. Tentative future Phase II Practical examination dates are:

- June 7-13, 2025

### **Examination Fees**

The Examination fee is separate from the Credentials Application Fee.

**Phase I Examination (Multiple choice examination): \$1,500**, whether being taken for the first or a subsequent time. Please note this amount is for reference only, fees are subject to change annually.

The signed Phase I Examination Security Form is to be submitted by and the examination fee paid by new candidates and re-examination candidates by October 31<sup>st</sup> **of the year preceding the examination.**

This form (EXAM-950) is available in the Preparing for the AVDC Examination link on the Resident Resources section of the AVDC web page.

**Phase II Examination (Practical).** Only candidates who have passed the Phase I examination are eligible for entry to the Phase II Practical Examination (with the exception of individuals who became candidates in 2013 or earlier). **The anticipated Phase II examination fee for 2024 will be \$3,500.** Please note this amount is for reference only, fees are subject to change annually.

**The signed Phase II Examination Security Form is to be submitted by and the examination fee paid by new candidates and re-examination candidates by March 1, 2024.** This form (EXAM-950) is available in the Preparing for the AVDC Examination link on the Resident Resources section of the AVDC web page.

### **Deferral and Refund:**

Candidates who have paid an examination fee and who subsequently inform AVDC that they are electing to defer taking the examination no less than 30 days prior to the examination date may request a refund of the paid examination fee or leave the funds in place as a credit for a subsequent examination attempt. No refund will be available if the candidate does not inform AVDC 30 or more days prior to the examination, except for documented personal or family emergency reasons.

## **Phase I - Multiple Choice Question Examination**

Phase I of the examination will consist of two sessions; the scores from the two sessions will be combined as a single Phase I score in determining Pass or Fail.

**Phase I will be given January 11<sup>th</sup> and 12<sup>th</sup>, 2024, and will be administered remotely via computer at the candidate's home or office location utilizing a virtual proctor software.**

Eligible candidates will be given information on computer/software requirements and a training session on the software prior to the examination dates.

The virtual proctoring software flags activities from the candidate that may be deemed suspicious. These activities are then reviewed by the psychometrician and the chairs of the exam committee. If the exam committee and the psychometrician, deems inappropriate behavior was observed on the flagged video, the candidate may be given a failing grade for the overall examination. The candidate may also be disqualified from taking future examinations.

Activities that may be flagged as suspicious include: consultation with another person (in-person, virtually or electronically), writing anything down on paper, speaking questions and distractors out loud, looking away from the computer screen for long periods of time, utilizing external supporting materials (books, journals, etc.) or electronic devices (smartphone, tablet, smart watch, etc.), and failing to complete an adequate room sweep at the beginning of each exam section. Please be aware that this list is not inclusive.

Additionally, evidence of behavior and conduct unbecoming of a diplomate including but not limited to excessive swearing and foul language, threats toward the exam committee members, the AVDC, or threats of self-harm observed on the virtual proctoring software will not be tolerated. The candidate may be given a failing grade for the overall examination and may be disqualified from taking future examinations.

Each session of the Phase I examination will include approximately 200 four-part multiple-choice questions, which may be accompanied by images (radiographs, clinical photos/specimens, dental instruments, and materials etc.) It will be given in 90-minute increments with breaks between segments. The exact schedule will be given to eligible candidates in advance of the examination dates. The Phase I examination is designed to assess knowledge of the scientific literature in topics relevant to veterinary dentistry, including oral diagnosis and treatment planning, familiarity with anatomy, materials, supplies and equipment, as well as therapeutic judgment in topics relevant to veterinary dentistry, as described in the Examination Content Table below. Large animal and exotic animal questions in the Phase I exam will not exceed 10%.

## Phase I Examination Content Table

Periodontology	16-18%
Endodontics	15-17%
Oral Surgery	16-18%
Operative Dentistry	8-10%
Orthodontics	4-6%
Oral Medicine	9-11%
Anesthesia & Analgesia	10-12%
Diagnostic Imaging	13-15%

### Performance Domain 1: Periodontology

#### A. Fundamental Knowledge

1. Periodontal anatomy and function
2. Physiology and pathophysiology of periodontal disease
3. Host immune response
4. Healing of periodontal tissues
5. Principles of osseointegration
6. Classification systems for dental record keeping
7. Instrumentation for periodontal evaluation
8. Clinical signs and manifestations of periodontal disease
9. Diagnostic imaging assessment of periodontal disease
10. Home care products – indications, use, contraindications, and mechanisms of action
11. Systemic effects of periodontal disease
12. Identification, care, and use of periodontal hand instrumentation
13. Care, use, and mechanism of action of power equipment
14. Polishing equipment and materials

#### B. Advanced Topics

15. Indications, contraindications, materials and techniques for periodontal cleaning, root planing and periodontal pocket treatment
16. Indications, contraindications, materials, and techniques for guided tissue regeneration
17. Indications, contraindications, materials, and techniques for gingivectomy/gingivoplasty
18. Indications, contraindications, materials, and techniques for periodontal surgery
19. Medical management of advanced periodontal disease
20. Most up to date knowledge of the canine and feline microbiomes

### Performance Domain 2: Endodontics

#### A. Fundamental Knowledge

21. Gross and microscopic endodontic, periapical, and dentin-pulp anatomy
22. Physiology and pathophysiology of the dentin-pulp relationship/complex and periapical tissues
23. Clinical signs of, and methods to assess, endodontic disease, including tooth fractures, tooth resorption, pulpitis, and developmental defects
24. Tooth fracture classifications and nomenclature
25. Diagnostic imaging assessment of endodontic disease
26. Physical properties and use of endodontic materials
27. Endodontic instruments

## **B. Advanced Topics**

28. Indications, contraindications, materials, and techniques for:
  - A. Vital pulp therapy
  - B. Standard (orthograde) endodontic therapy
  - C. Surgical (retrograde) endodontic therapy
  - D. Apexification procedures
  - E. Hemisection and root resection
  - F. Treatment of traumatic dental injuries
29. Procedural complications of endodontic therapy and their management
30. Regenerative endodontics

## **Performance Domain 3: Oral Surgery**

### **A. Fundamental Knowledge**

31. Anatomy, physiology, pathophysiology, and pathology of orofacial structures
32. Incidence, prevalence, and biological behavior of oral tumors and non-neoplastic diseases that can mimic neoplasia
33. Physiology of maxillofacial bone and soft tissue healing
34. Pathophysiology and pathology of acquired and congenital hard and soft palate defects
35. Oral surgery and exodontia instrumentation
36. Materials for oral and maxillofacial surgery
37. Closed and open extraction techniques
38. Surgical management and treatment of teeth with exodontia and crown amputation
39. Indications, contraindications, and complications for exodontia of teeth and root remnants
40. Indications, contraindications and complications for subgingival crown amputation and intentional root retention
41. Indications and complications of oral and maxillofacial biopsies
42. Nonsurgical and surgical treatment of osteomyelitis
43. Postoperative management of the oral surgery patient

### **B. Advanced Topics**

44. Indications, contraindications, and techniques for oronasal fistulas and oroantral communications
45. Indications, contraindications, and techniques for repair of acquired and congenital hard and soft palate defects
46. Indications, contraindications, and techniques for partial/total mandibulectomy and maxillectomy
47. Indications, contraindications, and techniques for maxillofacial fracture repair
48. Management of teeth in fracture lines
49. Indications, contraindications, and techniques for repair of traumatic soft tissue injuries
50. Indications, contraindications and techniques for salivary gland and lymph node surgery
51. Surgical considerations for radiation therapy, chemotherapy, and immunosuppressive medications
52. Maxillofacial fracture patterns
53. Indications, contraindications, and techniques for use of osteoconductive and osteoinductive materials
54. Management of temporomandibular joint disease and associated conditions
55. Management of traumatic tooth injuries
56. Complications of oronasal fistulas and oroantral communications and their management
57. Complications of hard and soft palate repair procedures and their management
58. Complications of maxillofacial trauma repair and their management
59. Complications of partial/total mandibulectomy and maxillectomy and their management
60. Postoperative nutritional management of the oral surgery patient

61. Assessment of trauma patients prior to surgery

## **Performance Domain 4: Operative Surgery**

### **A. Fundamental Knowledge**

- 62. Anatomy, physiology, pathophysiology, and pathology of tooth structure
- 63. Histology of tooth structure
- 64. Classification of defects
- 65. Effects of operative dental procedures on the structural integrity of teeth
- 66. Periodontal considerations for restorations
- 67. Indications and contraindications for placement of dental prostheses
- 68. Indications and contraindications of restorative and prosthodontic materials
- 69. Physical properties of restorative and prosthodontic materials
- 70. Principles of micro- and macro-mechanical retention of dental restorative materials
- 71. Indications, principles, and appropriate use of dentin bonding agent
- 72. Instrumentation for operative dentistry

### **B. Advanced Topics**

- 73. Placement and finish of restoration material
- 74. Techniques and materials for unfilled resin dentin bonding and composite restorations
- 75. Techniques and materials for obtaining impressions and model fabrication
- 76. Techniques and materials for appropriate crown preparation methods
- 77. Techniques, materials, indications, and contraindications for prosthesis cementation
- 78. Techniques, materials, indications, and contraindications for cavity preparations
- 79. Complications of operative dentistry and their management
- 80. Postoperative management of the restorative dentistry patient

## **Performance Domain 5: Orthodontics**

### **A. Fundamental Knowledge**

- 81. Anatomy, physiology, pathophysiology, and pathology of occlusion and skull conformations
- 82. Developmental anatomy and embryology
- 83. Genetic basis for orthodontic problems
- 84. Nomenclature and classification to accurately describe occlusion/malocclusion
- 85. Consequences of malocclusion
- 86. Appearance of secondary trauma associated with malocclusion
- 87. Effects of orthodontic treatment on development of occlusion
- 88. Physical properties of orthodontic materials
- 89. Patient and client selection for orthodontics
- 90. Legal and ethical considerations for orthodontic treatment and genetic counseling

### **B. Advanced Topics**

- 91. Expected outcomes and complications of orthodontic treatment
- 92. Indications, techniques, and principles of interceptive orthodontics
- 93. Indications, techniques, and principles for active orthodontics
- 94. Indications, techniques, and principles for passive orthodontics
- 95. Indications, contraindications, advantages, and disadvantages of direct and indirect appliance fabrication

## **Performance Domain 6: Oral Medicine**

### **A. Fundamental Knowledge**

96. Normal anatomy and physiology of the craniofacial region and oral cavity
97. Species and breed differences with respect to the incidence and prevalence of diseases of the oral cavity
98. Prevalence, biological behavior, clinical presentation, and prognosis of diseases affecting the oral cavity and craniofacial region
99. Regional impact of oral disease (e.g., rhinitis, fistula formation)
100. Treatment modalities (e.g., pharmaceuticals, immunological agents, chemotherapeutic agents, radiation, laser therapy, physical therapy)
101. Indications and modalities for staging oral neoplasia
102. Antimicrobial drug use and stewardship
103. Diagnostic equipment and techniques for tissue sampling (e.g., cytology, biopsy, culture)

### **B. Advanced Topics**

104. Oral manifestations of systemic diseases
105. Systemic impact of oral disease
106. Adjunctive therapy for specific tumor types
107. Indications and contraindications for medical and surgical therapies
108. Therapeutic effects and side effects of medical and surgical therapies
109. Stomatitis management
110. Medical management of the complex oral medicine patient
111. Knowledge of etiologies and treatment of ulcerative oral diseases
112. Indications and limitations of diagnostic tests

## **Performance Domain 7: Anesthesia and Analgesia**

### **A. Fundamental Knowledge**

113. Anatomy as it pertains to regional analgesia
114. Systemic physiology related to anesthesia with particular emphasis on cardiopulmonary, renal, and hepatic physiology
115. American Society of Anesthesiologists (ASA) physical status classification
116. Common drug options for premedication, induction, and maintenance of general anesthesia
117. Common protocols and options for acute vs. chronic analgesia
118. Pharmacology, administration, and contraindications of local/regional anesthetics
119. Anesthetic drug interactions with concurrent medications (e.g., seizure, behavioral, homeopathic, cardiovascular, renal)
120. Contraindications of medications used for medical problems and anesthesia/analgesia
121. Anesthesia machines and circuit types
122. Anesthesia delivery mechanisms (e.g., intravenous, inhalant, CRI)
123. Monitoring equipment and data interpretation
124. Recognition and management of common arrhythmias
125. Recognizing capnography waveforms and their significance
126. Anesthesia thermoregulation devices (e.g., circulating water blankets, force air convection warming devices, carbon fiber blankets, IV fluid warmers)
127. Anesthetic reversal agents (e.g., atipamezole, flumazenil, naloxone)

### **B. Advanced Topics**

128. Species and breed specific anomalies as it pertains to anesthesia (e.g., MDR1 in Collies)
129. Individual anesthetic and analgesic plans for patients with concomitant disease (e.g., cardiac, renal, endocrine, trauma)



130. Pharyngostomy intubation, transmylohyoid orotracheal intubation, and tracheostomy tube placement
131. Additives to local anesthetics that impact their duration (epi, dex, bup)
132. Risk of tracheal trauma with dental procedures
133. Risk of cardiopulmonary arrest with anesthesia
134. Methodology to decrease risk of vomiting and/or regurgitation in relation to aspiration pneumonia in dental procedures
135. Iatrogenic trauma during local blockade and oral procedures (e.g., ocular trauma and maxillary artery occlusion)
136. Emergency procedures (e.g., tracheostomy, CPR) and equipment
137. Crystalloid, colloid, and blood product support
138. Emergency drug indications and routes of delivery
139. Management of hypotensive crises
140. Anesthetic considerations for pediatric and geriatric patients

## **Performance Domain 8: Diagnostic Imaging**

### **A. Fundamental Knowledge**

141. Anatomy and physiology of the dental and periodontal tissues
142. Anatomy and physiology of the skull and soft tissues of the head and neck
143. Normal radiographic development of the teeth and the jaws
144. Developmental and acquired abnormalities of the teeth, jaws, and soft tissues of the head
145. Indications and contraindications of various diagnostic imaging modalities
146. Operation of X-ray generators and advanced imaging modalities
147. Patient preparation and positioning
148. Radiographic imaging including conventional film and digital radiography
149. Parallel, bisecting angle, occlusal techniques, image acquisition
150. Labial and lingual mounting techniques
151. Imaging artifacts
152. Radiographic and advanced imaging procedures to determine presence and location of retained roots
153. Patient and operator protection and radiation safety guidelines

### **B. Advanced Topics**

154. Radiographic pathology of developmental or congenital anomalies
155. CBCT interpretation of dental and maxillofacial pathology
156. Radiographic interpretation of endodontic and periodontal anatomy and pathology
157. Radiographic interpretation and classification of canine and feline tooth resorption pathology
158. Radiographic interpretation of anatomical/developmental normal structures and anomalies
159. Radiographic interpretation of dental and oral/maxillofacial trauma
160. Radiographic diagnosis of bone lesions
161. Radiographic/imaging signs of benign and malignant lesions, including determination of radiographic margins of neoplastic disease
162. Interpretation of advanced imaging studies of the head and neck (CBCT, CT, MRI)

## **Phase II (Practical Examination)**

### **Venue Selection**

The site for the examination must be of sufficient size to allow all candidates to sit for their examination at the same time. The site must also have significant storage facilities such that cadaver specimens can be acquired, assessed, and prepared, and held after the examination date until all appeals, etc. can be conducted and resolved. The site must have adequate staffing to facilitate the above, be secure, discrete, and available yearly.

Currently, that venue is the Viticus Center in Las Vegas, Nevada. The Viticus Center is a privately run facility with multiple human and veterinary educational labs and seminars scheduled years in advance.

The AVDC must coordinate with the Viticus Center to find an appropriate date that meets the requirements of the American Board of Veterinary Specialists (ABVS), the schedule of the privately run Viticus Center, and the needs of the AVDC. The venue is contractually reserved in advance to ensure consistency yearly with residency training program requirements, credentials applications and the Phase 1 examination. The American Board of Veterinary Specialists (ABVS) requires pre-determined periods of time during which candidates must be notified of their Phase 1 test results and subsequent eligibility for taking the Phase 2 exam. ABVS also determines a pre-approved timeframe required for appealing the Phase 1 test results. Everything must be coordinated prior to the date held for the AVDC for our examination by the Oquendo Center.

### **Specimen Selection**

Many months before the Phase 2 examination takes place, the process of specimen acquisition and selection begins. All cadavers are ethically sourced, and no animal is euthanized for the examination. Support staff from the Viticus Center and the Examination Committee Chair make the initial acquisitions and select as many as four times the anticipated final numbers needed. These specimens are then all held in the same cold-storage area so that they should all be of similar quality when further selection/processing occurs. Before any specimen is presented to an Examination Candidate, they will have undergone the following steps:

1. Examination to eliminate any animal with pre-existing oral trauma/damage or degraded tissues that may specifically impact the tested procedure.
2. Full mouth charting to ensure sufficient, if not complete, dentition and that dentition is in appropriate health for the specimen's intended use. Animals with crowded dentition may be eliminated depending on the procedure for which they were intended. Any minor pre-existing damage that will not interfere with the intended use of the specimen is recorded. All charts and lists of recorded damage are archived for future reference.
3. Radiographs are taken to evaluate for adequate age and reasonably uniform pulp chamber/canal size across specimens. Depending on the intended procedure for a particular specimen, specimens may be eliminated that exhibit signs of ankylosis, tooth resorption, or excessively large and small pulp

chambers/canals. These radiographs are screened by several members of the Exam Committee to ensure the specimen is appropriate for use. All radiographs are archived for future reference.

4. Attempts are made to standardize size of specimens and head type while recognizing that variability in practice will occur and an Examination Candidate should be able to perform the same procedure regardless of head size/skull type.
5. All specimens are individually tagged and grouped into their Exam session.
6. Any lesions which are to be created by the Examination Committee are made according to their Standard Operating Procedure (SOPs) for lesion creation. A single Exam Committee member is responsible for creating identical lesions in all specimens. The Exam Committee member responsible for creating a lesion is also a member of the grading team responsible for grading that lesion. Whenever possible, the Exam Committee member responsible for creating/grading the lesion is also responsible for performing a literature review on the procedure and updating the literature review document.
7. Following lesion creation, all specimens are photographed, documenting the sites of the lesions, and throughout the mouth with particular attention paid to photographing all sites where specific procedures are to be completed. All photos are archived for future reference and provide verification of pre-existing lesions, tissue quality or trauma in the oral cavity prior to testing.
8. All pre-existing lesions are recorded by the Exam Committee and provided to the Exam Candidate specific to their specimen.
9. All specimens are rinsed (again) in a solution to minimize degradation and are vacuum sealed before returning to cold storage.
10. All specimens are removed from cold storage prior to administration of the examination to permit tissues to approach room temperature when possible.
11. All archived charts, lists, photographs, and radiographs have specimen-specific identifiers included with every item, i.e., ear tag, lead marker etc. and this archived information is then grouped together for each specimen and can be made available to the Grading Teams as needed.

**Note: ALL specimens are subjected to similar freezing times, freeze/thaw cycles, and tissue handling.**

### **Lesion Creation**

There are Standard Operating Procedures (SOPs) for all lesions created by the Examination Committee. The SOPs ensure that the lesions are equivalent/repeatable between specimens of that year, and between years. All lesions are made relative to anatomic (dental or hard/soft tissue) points of reference. The person creating the lesions will be a senior member of the Examination Committee who has either created the lesions in previous years or has worked with that person in a previous exam preparation and are therefore already trained in the technique. The same person makes the lesions in all the specimens. All lesions are photographed and/or radiographed and these images are archived for future reference.

#### *Example 1: Crown lengthening*

The crown will be amputated at a specific height relative to the cemento-enamel junction, as the cemento-enamel junction does not change despite tissue manipulation/re-contouring during this procedure. This allows the Grading Team to accurately measure whether the number of millimeters of required crown lengthening has been achieved. Archived photos and radiographs may also be referenced as needed.

#### *Example 2: Lesion for restoration*

The lesion is made at a specific location (relative to the cemento-enamel junction, alveolar bone, major cusps, etc), to a specific size (relative to that individual specimen), and to a specific depth (measured in millimeters). Grading teams have access to archived photos and radiographs as needed.

**For 2024, the Phase II Practical Exam will be administered over the week of June 10th-14th, 2024 at the Viticus Center in Las Vegas, NV.** There will be a mandatory orientation session the evening prior to the first day of the examination. This examination is designed to assess the clinical technical skills of the candidate and will be given in four core sessions. The candidates will perform two procedures within each of the four core

disciplines: periodontics, endodontics, oral surgery, and restorative dentistry/prosthodontics/ orthodontics.

The core schedule and time limit for each session is listed below and is for the 2024 cycle only. The format of the examination will be explained further at the exam security meeting and at the beginning of the examination. Plan your work sequence at the start of the session and continue to be aware of the remaining time during the testing session.

### **Tentative 2024 Phase 2 Examination Location and Schedule**

Dates and times are subject to change until the final candidate numbers are determined in March, 2024

#### **Tuesday June 11<sup>th</sup>, 2024**

Location: Viticus Center Eastern Campus, 5810 S Eastern Avenue, Las Vegas, NV 89119

5pm - 6pm Candidate Orientation Meeting/Candidate Security Registration\*\*

6pm - 8pm Candidate practical station set-up

\*\* Attendance at this meeting is **mandatory** in order to complete the AVDC security and anonymity procedures.

Access to the laboratory to start set-up for the practical examination will not be permitted until after the orientation and security meetings have finished.

Two hours (120 minutes) will be made available for workstation set-up (regardless of when the orientation and security meetings end). All candidates will be allowed into the laboratory at the same time, given the opportunity to find their workstation, and then allowed to set up, and to practice using the radiographic equipment; cadaver specimens will be provided.

The tentative schedule for Phase II exam is outlined below:

**Wednesday June 12<sup>th</sup>, 2024**

Location: Viticus Center Eastern Campus, 5810 S Eastern Avenue, Las Vegas, NV 89119

7:30 am: Candidates may enter the testing room  
8:00 am: **Session 1** begins  
11:00 am: End of session 1

11:00 am- 12:00 pm: Break for cleanup of station and setup for next session and short lunch break. It is advised that candidates bring their lunch to eat at Viticus during this break or travel only a short distance to a local restaurant. Session 2 begins promptly at 12:00 pm.

12:00 pm: **Session 2** begins  
3:00 pm: End of session 2  
3:00-3:30 pm: Cleanup of station, candidates exit testing room promptly at 3:30 pm

**Thursday June 13<sup>th</sup>, 2024**

Location: Viticus Center Eastern Campus, 5810 S Eastern Avenue, Las Vegas, NV 89119

7:30 am: Candidates may enter the testing room  
8:00 am: **Session 3** begins  
10:30 am: End of Session 3

10:30-11:30 am: Break for cleanup of station and setup for next session, short lunch break. It is advised that candidates bring their lunch to eat at Oquendo during this break or travel only a short distance to a local restaurant. Session 2 begins promptly at 11:30 am.

11:30 am: **Session 4** begins  
2:00pm: End of Session 4  
2:00-3:00 pm: Cleanup and breakdown of workstations, **all candidates must exit testing room promptly at 3:00 PM**

**Time allotments per core discipline will be as follows for the 2024 Phase II exam and may be subject to change:**

**Oral Surgery: 3 hours**

**Endodontics: 3 hours**

**Restorative Dentistry/Prosthodontics/Orthodontic (Combined CORE): 2.5 hours**

**Periodontics: 2.5 hours**

**\*\*ORDER OF SESSIONS WILL BE CONFIRMED AT THE EXAMINATION SECURITY MEETINGS\*\***

**ALL CANDIDATES MUST BE PRESENT FOR THE EXAMINATION SECURITY MEETING ON JUNE 11<sup>TH</sup>**

**NO CANDIDATE WILL BE ALLOWED TO PACK UP THEIR STATIONS UNTIL THE END OF THE LAST SESSION FOR THAT DAY. IF A CANDIDATE IS TAKING SESSIONS ON DAY ONE ONLY AND WISH TO LEAVE, THEY WILL HAVE 30 MINUTES TO PACK UP THEIR STATION AFTER THE END OF THE FINAL SESSION FOR THAT DAY. E.G. PACKING OF CANDIDATE STATIONS CAN ONLY OCCUR FROM 3:00-3:30 ON DAY ONE OR FROM 2:00-3:00 ON DAY TWO.**

**Candidates will only be permitted in the testing room during their required core sessions only and designated set-up/clean-up times at the beginning and end of each day.**

***Candidates should not schedule flights home earlier than 6 pm on Thursday June 14<sup>th</sup>, 2024.***

### **Hotel Accommodation**

You are responsible for your own hotel accommodations. The two hotels close to the Viticus Center are:

- Hampton Inn and Suites, McCarran Airport - 6575 S Eastern Ave, Las Vegas, NV 89119; 702-647-8000
- La Quinta by Wyndham Las Vegas Airport South - 6560 Surrey Street, Las Vegas NV 89119; 702-492-8900

It is recommended that you ask for a “quiet” room on the non-airport side since these hotels are on the outskirts of airport property.

Many other hotels, motels, etc., are located in Las Vegas.

## Other information:

- Restrooms are readily available at the Viticus Center.
- There is no cafeteria or food service in the Viticus Center.
- You will be permitted to bring food and beverages into the building, but not into the examination rooms. Please plan ahead so that your food and liquid refreshment needs are met.
- There are small lockers available to store your food and other belongings. Some snacks, water and other beverages may be provided by the Viticus Center. Food and beverages other than water are not allowed in the examination rooms.
- The possession or use of firearms, explosives or weapons of any kind is strictly prohibited during AVDC-related activities, including the Phase 2 Examination. Candidates found doing so will be disqualified from taking future examinations.

While every effort is made to ensure consistency between specimens to ensure fairness, as in clinical practice not all specimens are exactly the same. *Each candidate should work with their specimen(s) to the best of their ability.* The candidate should carefully examine their specimen for any additional pathology in the area of the specified procedure and alert the proctor if any are found. All of the cadaver specimens used in the Phase II exam are ethically sourced, and no animals are euthanized for the sole purpose of the exam.

Candidates are to work independently, and no candidate is allowed to receive help on any phase of the practical examination. **Sharing of equipment or materials among candidates during the examination sessions is not permitted**, as this has been found to be disruptive to the examination process. With the exception of minimal conversation with a proctor directed toward the use of AVDC-provided equipment, candidates are not to engage in conversation during the examination. Pets, family members, friends, staff, and personal belongings not related to the examination will not be allowed in the examination area or the Viticus Center during the examination period. Electronic music players and earphones are not allowed (see Examination Security and Candidate Misconduct). You may use earplugs if you wish to reduce ambient noise.

## Workstation:

Each candidate will be assigned a workstation consisting of an 8' table, mobile surgery light, chair, and power strip, historically with 12 outlets. Unless you are an international candidate who needs power adaptors, NO additional power sources (cords or power strips) can be used at your station. They will be removed if found. If an electronic device plugs into the existing power strip provided at your station, this would be deemed acceptable. Sharps containers are provided at each radiograph station. Please consider bringing your own sharps container.

Surgical loupes with a light source are strongly recommended and are each candidates' personal responsibility if used. Digital clocks are present and visible throughout the room.

Materials at each individual workstation cannot be stacked beyond "countertop height." Any overflow is restricted to within 2 feet to the left and right sides of the workstation and no further behind the workstation than 4 feet. Additional necessary space will be allotted as a first come, first serve basis around the periphery of the practical examination room.



**Dental high-speed units and handpieces: This information pertains to the 2024 Phase 2 examination:**

**This information is subject to change until March 31,2024**

Candidates will be allowed to use the scaler hand pieces provided on the unit and a universal scaling tip will be provided. One high-speed hand piece will also be provided. No other hand-pieces or scalers will be provided – ***you are required to bring a low-speed handpiece, back up high- and low-speed hand-pieces, couplers, tips and burs you wish to use in the examination.***

Candidates will be randomly assigned a dental high-speed unit from iM3, MAI or Midmark. **These assignments will be made by April 2024.** Candidates may not request a specific unit.

**Midmark Equipment Specifications**

These specifications are subject to change.

The Midmark 1000 has conventional 4-hole and 5-hole (fiberoptic) connections, and a piezo electric scaler handpiece. **Candidates wishing to use the scaler must provide their own piezo scaling tips.** Piezo tips must be Acteon Satelec brand tips only. Other



brands may fit into the handpiece but may not work normally in the Midmark units. Acteon Satelec tips can be purchased through Midmark representatives, dealers or directly from Midmark at the link below.

Scaler tips can be purchased from your distributor online from the Midmark part store at this link:

[https://www.midmarkserviceparts.com/catalog/search/categories/Animal%20Health%20Dental?utm\\_source=midmark&utm\\_medium=banner&utm\\_campaign=2019-ahcategory-banner&utm\\_content=eu-dlr](https://www.midmarkserviceparts.com/catalog/search/categories/Animal%20Health%20Dental?utm_source=midmark&utm_medium=banner&utm_campaign=2019-ahcategory-banner&utm_content=eu-dlr)

The following are commonly ordered scaler tip numbers, which can be searched on the Midmark website (above) for purchase:

016-1203-00 Universal, Tip No. 1

016-1203-03 Voluminous Calculus, Tip No. 2

016-1203-04 Shallow Pockets, Tip No. 10P

016-1203-01 Subgingival, Tip No. 10Z

016-1203-02 Periodontics, Micro Universal Curette, Tip No. H3

016-1203-13 Universal Scaling, Longer and Thinner, Tip No. 1S

AVDC cannot guarantee that handpieces with fiberoptic capability will function properly with all candidate-provided fiberoptic lights at the hand-piece head.

The Midmark 1000 has water bottles that are used to provide water to the built-in handpiece lines. Distilled water will be provided for use in the bottles of the Midmark dental units and that water is available via the high-speed hand-piece line and the air-water syringe line. Ports on the back of the dental unit can be used for attaching additional equipment, provided the candidate brings an appropriate coupler for the water to flow through from the back of the Midmark 1000 to the additional equipment.

### **MAI Equipment Specifications**

These specifications are subject to change.

The Inovadent unit has conventional 4-hole (low speed) and 5-hole (high speed) connections, and a piezo electric scaler handpiece. ***Candidates wishing to use the scaler must provide their own piezo scaling tips. For the Inovadent units, KLAW tips should be utilized (see below). Acteon tips will thread onto the supplied MAI piezo handpiece. Please note that if using an Acteon tip, candidates must also supply their own Acteon tip wrench***

The following are commonly ordered scaler tip numbers, which can be purchased from MAI at the following website: [www.maianimalhealth.com](http://www.maianimalhealth.com) . An account needs to be created to obtain veterinary prices.

ITEM NUMBER	PRODUCT DESCRIPTION	UOM	MIN ORDER QTY	MIN ORDER QTY	Vet/Dealer UOM Price
54833	KLAW™ 4 – Piezo Tip	Each		1	\$105.00
54844	KLAW™ Wrench	Each		1	\$9.75
54158	Spotlight LED Standard Head High Speed Handpiece	Each		1	\$780.00
54154	Ultima E-Style Low Speed Polisher	Each		1	\$582.75

The Inovadent units use a remote water bottle that services 4 units each. Distilled water will be provided for these units as well. Ports on the back of all dental units can be used for attaching additional equipment, provided the candidate brings an appropriate coupler for the water to flow through from the back of the units to the additional equipment (such as a scaler).

### **iM3 Equipment Specifications**

Specifications are subject to change.

The GS Deluxe LED is equipped with an air-driven, LED light on the high-speed handpiece. If you provide your own handpiece that has a fiberoptic light, the light will NOT work on the GS Deluxe LED. **5-hole handpieces will NOT work on iM3 units.**

The iM3 GS Deluxe LED dental unit has a conventional 4-hole connection, LED, 360degree swivel handpiece, and a P6 piezo electric scaler. **Candidates wishing to use the scaler must provide their own piezo scaling tips.** Piezo tips must be Acteon Satelec brand tips only. Other brands may fit into the handpiece but may not work normally in the iM3 units. Acteon Satelec tips can be purchased through dealers or directly from iM3.

<http://www.im3vet.com>

The GS Deluxe LED has water bottles that are used to provide water to the built-in hand-piece lines. Distilled water will be provided for use in the bottles in the GS Deluxe LED dental units and that water is available via the high-speed hand-piece line and the air-water syringe line. Ports on the back of the dental unit can be used for attaching additional equipment, provided the candidate brings an appropriate coupler for the water to flow through from the back of the GS Deluxe LED to the additional equipment.

**Instruments and materials** such as digital radiographic film, handpieces, restorative material, curing lights, impression materials etc. are not supplied by the AVDC. The Examination Committee discourages the use of thermoplasticized gutta percha for endodontic procedures due to the temperature of the materials provided. The use of surgical adhesives for closure is not allowed because this prevents evaluation of surgical technique. Due to safety regulations, use of two-part, liquid-powder methyl methacrylate products and chloroform are **not** allowed; candidates must find an alternate material for procedures that might call for the use of such products.

Candidates will **not** be required to use amalgam for restorative procedures. Candidates will **not** be required to pour stone models. To summarize, all materials necessary to complete the practical examination sessions, and which were not mentioned in this document as being supplied by the AVDC, are the responsibility of the candidate. No reading materials associated with dental equipment or supplies may be brought into the examination room, except product information sheets that were originally packaged with the equipment or material.

**Set-up:** In addition to the set-up time in the evening prior to the first session, the candidates will be allowed into the examination room 30 minutes prior to the scheduled start time of the first session of each day, to set up their equipment. To avoid disruptions to others, all candidates are required to set-up and breakdown equipment at the same time, regardless of cores they are taking.

### **Radiographs:**

Specifications are subject to change.

A digital radiographic system will be used by all candidates, and there will be 1 dental x-ray machine and CR7 processing station per every 5-6 candidates. Free-standing digital radiography units will be used to create and expose images using the CR7 system, available from IM3. Candidates will be required to purchase their own phosphor plates for the examination.

It is recommended that candidates bring **TWO** size 4 phosphor plates and **TWO** size 2 phosphor plates. Plates can be purchased through IM3 directly (800-664-6348).

All plates, including Size 2 plates can be bought individually.

Size 2 plates (X7121) (Exam plate 2): \$86.00 per plate and size 4 plates (X7141) (Exam plate 4): \$232.00 per plate (prices subject to change)- be sure to mention that you are purchasing the plates for the AVDC examination to obtain the discounted rate. This rate should only be used for attendees purchasing plates for the examination.

AVDC will provide **TWO** barrier sleeves for use with each of the phosphor plates when radiographing your specimen; therefore, you are not required to purchase barrier sleeves; however, AVDC strongly recommends using a barrier sleeve when you are using

phosphor plates in clinical practice or when practicing for the examination, to prevent the plate from becoming scratched or dirty. The sleeves are available from IM3.

USB flash drives will be provided with each specimen for storage of images. The radiographic images will be viewed on Microsoft Surface Pro 3 tablets (*or something comparable*) provided by AVDC. This is a touch-screen Windows-based device and will allow image files to be accessed from the thumb drive folder in the same manner they would be viewed on a PC. The model being used has the following specifications: Microsoft Surface Pro 3 iCore 3; 4GB RAM; 64GB Solid state drive; 12-inch screen; Windows 10 Pro operating system. Candidates should safely “eject” the USB drives to prevent accidental deletion of images.

### **Submission of items for grading:**

**Examination materials must be handed in on time.** The final five minutes of the examination will be recorded. The entire examination period may be video recorded. Radiograph generators will be turned off with 5 minutes remaining; unprocessed films placed at the development station immediately following the generator being powered down will be processed; if a processing backlog occurs, any undeveloped films will be processed and considered “turned in” upon the call of time despite not being viewed by the candidate.

**All specimens and related materials for grading (such as resected specimens, impressions or USB flash drives containing radiographs) must be placed in plastic boxes with the top closed, and the box must be placed on the floor before or at the time that the end of the examination is announced.**

Time remaining in the session will be announced periodically by the proctor. Candidates will be informed by announced countdown of the last 15 seconds prior to the end of the examination.

If a specimen is not in the plastic box on the floor with the top latched on at the announced end of the examination, proctors will physically collect the specimens and place them in the plastic box. A COLORED tag will be attached to that specimen box (which will be removed before the specimen box is seen by the graders). These colored tag specimens will be penalized 35% of the actual scores given by the graders for procedures performed on those specimens. Physical resistance by the candidate to collection of the specimen by the proctor will cause the proctor to back away with the result that the specimen will not be graded at all. Additional materials such as resected tissues, USB flash drives containing radiographs, impressions or extracted teeth not in the plastic box when collected by the proctor will still be submitted for grading but will receive a 35% penalty for the portion of the grading that the item pertains to.

Any items being submitted for evaluation (such as impression trays) must be completely devoid of any identifying mark other than the specimen numbers that will be assigned at the time of the examination.

Candidates must submit only what is specifically requested on the examination instructions. Any other material submitted will not be evaluated and may compromise the anonymity of the candidate.

**Safety issues:** Taking dangerous chemicals (e.g., chloroform, bleach) on airplanes is illegal. Candidates currently residing outside the USA should be aware that the voltage in the United States is 110v. Given the travel security arrangements now in place, review carefully what you need to bring with you. Contact your airline and/or the US Transport Security Administration if you have any questions or concerns.

## Possible Practical Examination (Phase II) Procedure List

- This list is representative of the types of procedures that will be included on the 2024 Phase 2 examination.
- The goal of the practical examination is to evaluate clinical skills, judgment, and treatment planning.
- The choice of technique and materials to be used for each procedure is part of treatment planning, and it is up to the examinee to select an appropriate technique and to execute the procedure. Radiographs will be required for some procedures.
- Use this list to determine what equipment, instruments and supplies may be needed, so that you are fully prepared.
- Please pack any equipment and supplies needed for the listed possible procedures. This includes any complications that may arise while performing the procedures in your listed CORE category/categories (Endodontics, Oral Surgery, Periodontics, and Restorative/Prosthodontics/Orthodontics). Please plan for any equipment and supplies that may be needed for the listed possible procedures or complications within your CORE/CORES that you would use to clinically treat the specimen(s) as if they were live patients.
  - Two procedures will be selected for each CORE.
- This list can be subject to change until March 31, 2024.

### Periodontics

1. Lateral sliding flap procedure to address a gingival cleft.
2. Type II Crown Lengthening procedure.

### Endodontics

1. Pulpectomy (standard root canal treatment), specific tooth as directed.
2. Apicoectomy (surgical root canal treatment), specific tooth as directed.

### Restorative

1. Crown preparation with a chamfer or shoulder margin **ONLY** for a metal or porcelain crown; appropriate impressions and bite registrations. Feather margins will not be accepted due to the inability to adequately assess this preparation during the grading process.
2. Preparation and treatment of a Class 1 defect with an appropriate restoration. Use of amalgam is **PROHIBITED** due to safety and health concerns of surrounding candidates.

### Oral Surgery

1. Surgical extraction of specified tooth or teeth.
2. Palatal surgery.
3. Maxillectomy/mandibulectomy for the treatment of a neoplasm.

## **Specimen Grading**

Following completion of the examination, all collected specimens are returned to the grading room. Grading occurs in teams. Three Exam Committee members comprise a grading team of three graders. One Exam Committee member will act as a grader and an archivist unless there is another individual available to fulfill the role of archivist. Prior to evaluating any procedure, the specimen is photographed extensively to photo document the state of the specimen, the identity of the specimen and the presentation of the pre-graded procedure area. Grading occurs independently by each grading team member and only involves the grading of the specific procedure to be graded by that team. Discussion is not permitted between graders during the grading process. If a team member identifies a point of interest that could be altered/disrupted before all members of the team have had a chance to observe that point of interest, then the initial grader may draw the other team members' attention to that item but must use neutral language that does not imply a negative or positive connotation to that point of interest. Any items that are directed to be turned in are reviewed by the grading team (including radiographs, impressions, teeth, oncologic resections, etc.) Points for specific grading criteria line items are assessed independently by each grader on their personal grading sheet. Justification for non-passing scores is documented on the grading sheet. Should a procedure not secure a passing grade these reasons can be accessed by the Exam Committee, Appeals Committee and Board members as needed. Grading sheets are saved, and scores are reviewed by Dr. Malinowski, who may recommend re-evaluating specimens that have a large grading discrepancy. Scores are submitted to the Board for final review.

## **Reasons for Failure of Practical Examination Procedures**

Here is a comprehensive list of reasons contributing to grading a procedure as a failure, from recent AVDC examinations. Note: this list is not inclusive.

### **General:**

Some requested items were not submitted. **Results in 35% penalty for all grading criteria related to that item.**

- Requested radiographs do not show the required structure(s).
- Stated specifications have not been met (e.g., mm of crown length to be created).

Patient care concerns, i.e., anything that would cause clinical problems in a patient if not attended to. Below is a list of examples. This list is not all inclusive. **Neglect of patient care results in a 5% penalty on all grading for that specimen.**

- Gauze or gross debris left in the mouth.
- Lip sutured to skin left in place.
- Mouth gag left in specimen's mouth.

Major procedural complications, i.e., anything that would cause the procedure to fail clinically. Below is a list of examples. This list is not all inclusive. **Major complications result in the grade for the procedure being multiplied by 0.70 as a penalty.**

- Incorrect tooth/area treated
- Wrong procedure performed
- Untreated pulp exposure
- Lack of biologic width preservation

Life-threatening/catastrophic complications, i.e., anything that would result in mortality or significant morbidity. This list is not all inclusive. **Life-threatening complications result in automatic failure of that core.**

- Brain perforation/herniation
- Orbital penetration
- Unnecessary removal of tissues such as the lips or tongue not related to the requested procedure

### **Soft Tissue:**

- Inappropriate location or length of incision.
- Irregular edges of incised tissues.
- Major vessel appears to be severed but not ligated.
- Un-necessary exposure of bone.
- Inappropriate size of suture material.



- Gaps between sutures, sutures are too loose or too tight or are crowded, or suture knots are not secure, incomplete closure of the surgical site.
- Tension at suture line (tissue edges of incision not apposed).
- Debris present.
- Adjacent soft tissue has been damaged.

### **Dental structures:**

- Inadequate or excessive removal of enamel or dentin, or unsupported enamel is present.
- Exposed dental surfaces have not been smoothed.
- Root is gouged or rough.
- Tooth gouged during preparation of adjacent tissues.

### **Gingiva and Periodontal Bone:**

- In addition to items in 'Soft Tissue', above:
- Calculus remaining on treated teeth.
- Biologic width is inadequate, gingiva is damaged or poorly adapted.
- Bone is rough or inappropriately shaped.
- Root is exposed.
- Perforation near or into the nasal cavity.
- Flap is poorly designed, and is insufficient to cover the defect without tension, or the width: length ratio is inadequate.
- Flap is loose or is perforated or is poorly adapted to bone.
- Tooth damage created during preparation of bone.
- Crown lengthening: In addition to above, insufficient additional length achieved; incorrect technique (I vs. II).

### **Impressions and Bite Registrations:**

- Impression tray is not included, is flexible or is too large.
- Impression material is not fully mixed; light body/wash not appropriately distributed.
- Not all relevant teeth are included in the impression.
- Cuspal show-through as a result of insufficient height of impression material.
- Bubbles or other defects such as drag lines are included in the impression.

### **Oral Surgery:**

- Poor or absent blood vessel management.
- Mass removal:
  - Inadequate or excessive extent of tissue resection.
  - Inappropriate design and length of flap incisions, causing tension or e.g., lip tuck, or tooth contacts flap.
- Extractions:
  - Excessive bone removal and inadequate alveoloplasty.

- Excessive undermining of flaps and damage to adjacent tissue.
- Inadequate preparation or over-preparation of flap recipient site.
- Bone surfaces rough and irregular, debris in alveolus beneath suture line or on exposed bone.
- Retained root tip; root tip in mandibular canal.
- Exposure of mandibular canal.
- Alveolus of canine tooth is fractured and mobile.
- Incomplete closure of the surgical site
- Tissue edges of the incision not apposing in a tension free closure
- Inadequate closure of the surgical site with apposing tissue margins

### **Endodontics**

- Access is misdirected or is too shallow or over-prepared or there is damage of adjacent enamel.
- Canal is over-instrumented or is inappropriately instrumented.
- Failure to clean the coronal portion if a separate access is made.
- Obturation is incomplete or of variable density or has obvious voids.
- Tooth split by excess obturation pressure.
- Debris in access site, or sealer is present on walls of access site.
- Excessive apical extrusion.
- Apicoectomy: Inappropriate location or length of incision; inadequate bone preparation or excessive or rough edges to cavity in bone; root surface at apicoectomy not smooth; perforation into nasal cavity; voids in apical fill; overfill and flash; restoration inadequate or not performed; site closure incomplete or sutures are tight.

### **Operative Dentistry:**

- Preparation for restoration: insufficient or of excessive depth, or enamel is undercut, or extends to the bone edge or margins and surfaces are not smooth, or bone management is poor.
- Root trauma.
- Buccal bulge is excessive, or preparation is over-filled.
- Crown preparation margin is irregular in width, in height to gingiva or is undercut, and surface of preparation is gouged or rough.
- Inadequate demonstration of the requested restoration margin (shoulder, chamfer, etc.)
- Restorative material is not fully cured.
- Soft tissue damage.

**Examples of exam scoring criteria for a variety of procedures are provided.**

The purpose of the following list is to help guide mentees and mentors on criteria used to assess execution of common dental and oral surgical procedures supported by literature for the purpose of self or mentor evaluation of procedural performance on common dentistry and oral surgery procedures. This document is meant to augment the information already available to Residents and their Mentors through DMS and is not meant to stand alone as the sole source that a candidate refers to for preparation of procedure performance on dentistry and oral surgery procedures. This document contains both historical and current procedures that have been requested on the Phase 2 examination.

**Please refer to the Possible Practical Examination (Phase II) Procedure List for specific information on procedures that may be requested on the 2024 Phase II Practical Examination.**

## **Line-Item Grade Sheets**

### **Oral Surgery Core**

**Procedure: Extraction of all teeth in a mandibular quadrant.**

1. Appropriate teeth and root removal
2. Lack of adjacent soft and hard tissue trauma
3. Appropriate flap design, tension-free closure, suture material and technique
  
4. Smooth bone margins (alveoloplasty)
5. Lack of free bony spicules and debris
6. Diagnostic postoperative radiographs
7. Major complications?

**Procedure: Management of a caudal palatal defect in a dog.**

1. Appropriate flap design/size
2. Preservation of vital anatomy (eg., major palatine artery)
3. Tension free closure
4. "Epithelial margins" debrided
5. Appropriate suture material & closure technique
6. Lack of soft & hard tissue trauma
7. Major complications?

**Procedure: Surgical treatment to excise a simulated oral tumor on the mandible**

1. All tooth roots removed
2. Lack of hard tissue trauma, Smooth bone margins
3. Lack of soft tissue trauma
4. Adequate margins
5. Diagnostic radiograph(s)
6. Tension-free closure, appropriate suture material
7. Preservation of and/or ligation of vessels
8. Major complications?

**Procedure: Maxillectomy to manage a simulated maxillary oral tumor**

1. *En bloc* excision including appropriate margins
2. Tension-free closure
3. All tooth roots removed
4. Appropriate suture material and technique
5. Smooth bone margins
6. Diagnostic radiograph(s)
7. Lack of hard and soft tissue trauma
8. Ligation of all severed maxillary vessels
9. Major complications?

**Procedure: Stabilization of a simulated transverse fracture between two mandibular teeth using interdental wiring with reinforced composite intraoral splint.**

1. Occlusion maintained, lack of interference with splint
2. Adequate strength/stability/functionality
3. Appropriate wire selection and wiring technique
4. Smooth composite edges with minimal gingival coverage
5. Lack of hard and soft tissue trauma
6. Diagnostic post-op rads (ventral cortex visible, entire repair)
7. Major complications?

**Endodontic Core**

**Procedure: Crown-height reduction, partial coronal pulpectomy and vital pulp therapy of both canine teeth.**

1. Diagnostic postoperative radiographs
2. Appropriate level of coronal amputation
3. Appropriate depth of pulpectomy
4. Appropriate depth of direct pulp cap material
5. Appropriate placement of direct pulp cap material
6. Appropriate width of intermediate layer
7. Appropriate placement of intermediate layer
8. Appropriate placement/finish/retention of restorative material
9. Appropriate access site preparation (clean walls, etc.)
10. Lack of hard and soft tissue trauma
11. Major complications?

**Procedure: Orthograde endodontic procedure on a fractured canine tooth**

1. 3 diagnostic radiographs
2. Appropriate size, shape, and placement of access site(s) if needed
3. Acceptable working length(s)
4. Canals appropriately instrumented & shaped
5. Acceptable obturation (e.g., overfills, underfills and voids)
6. Access/fracture sites prepared appropriately (clean walls etc.)
7. Major complications?

**Procedure: Apicoectomy and retrograde endodontic procedure on a tooth.**

1. Appropriate incision, exposure, and bone management
2. Appropriate root preparation (apicoectomy, cavity prep)
3. (sufficient) filling material/appropriate fill/finish
4. Diagnostic radiographs
5. Site management prior to closure
6. Appropriate soft tissue closure
7. Lack of hard and soft tissue trauma
8. Major complications?

## Periodontal Core

### **Procedure: Treatment of a mucogingival cleft**

1. Appropriate flap design & creation
2. Appropriate suture material selection and technique
3. Appropriate prep of host site
4. Lack of soft and hard tissue trauma
5. Major complications?

### **Procedure: Perform an apically repositioned flap with osteoplasty for Type II crown lengthening on a canine tooth.**

1. Appropriate flap design/closure/adaptation
2. Appropriate suture selection and closure technique
3. Appropriate flap design, creation, & execution
4. Appropriate bone removal & finish
5. Adequate root planing
6. Lack of hard and adjacent soft tissue trauma
7. Diagnostic postoperative radiograph(s)
8. Major complications?

### **Procedure: Open curettage and apically repositioned flap for the incisors**

1. Appropriate full-thickness flap design and creation
2. Adequate bone removal
3. Adequate root planning
4. Appropriate, tension-free closure
5. Appropriate suture selection and technique
6. Lack of hard and soft tissue trauma
7. Diagnostic post-operative radiograph
8. Major complications?

## Restorative/Prosthodontics/Orthodontics Core

### **Procedure: Full-mouth impressions, bite registration and active-force orthodontic appliance for treatment of mesioverted maxillary canine tooth.**

1. Appropriate impression tray selection/design/size
2. Impression (anatomy visible)/Accurate bite registration
3. Appropriate type of orthodontic appliance
4. Appropriate anchorage/positioning of orthodontic devices
5. Appropriate activation of appliance
6. Appropriate installation of appliance (i.e., durability, occlusal interference, hard or soft tissue trauma)
7. Major complications?

### **Procedure: Restoration of a subgingival defect in an otherwise periodontally sound tooth. Also prepare the supragingival defect for restoration and LEAVE UNFILLED.**

1. Appropriate closure technique
2. Flap design and execution (subgingival)
3. Lack of adjacent hard and adjacent soft tissue trauma
4. Alveolar bone management (biologic width)
5. Appropriate cavity preparation
6. Lack of unsupported enamel (supragingival)
7. Appropriate restorative material selection
8. Anatomical restoration/contouring/finish
9. Major complications?

**Procedure: Management of pit and fissure caries on the occlusal surface of teeth.**

1. Appropriate cavity preparation (removal of “unsound” enamel and dentin)
2. No unsupported enamel
3. Appropriate material selection
4. Quality of finish
5. Lack of hard tissue trauma
6. Diagnostic postoperative radiograph
7. Major Complications?

**Procedure: Crown preparation and detailed impression(s) of a tooth.**

1. Quality and appropriate cavosurface margin
2. Supragingival finish line ~1 mm from gingival margin
3. Adequate draw (angle of reduction)
4. Appropriate reduction (axial tooth structure) (0.5-1.0mm)
5. Quality of impression
6. Lack of soft and hard tissue damage
7. Major complications?

**Procedure: Direct inclined plane fabrication to correct bilateral linguoversion of the mandibular canine teeth.**

1. Occlusal contact points properly positioned
2. Appropriate pitch and direction of incline for desired tipping
3. Appliances secured adequately
4. Lack of occlusal interference of other teeth, Allowance for maxillary growth
5. Lack of hard and soft tissue trauma
6. Splint appropriate size
7. Appliance finish
8. Major complications?

## **Suggested Resource List for Candidates and Residents**

The following list is provided as suggested reading material. It is not all inclusive of every potential reference and publication, because the body of scientific literature is fluid and always changing. **No attempt is made to restrict examination questions to the material in these references.** The examination reflects the current state of knowledge in veterinary dentistry rather than material from a particular group of references. Much of veterinary dental knowledge has been derived from human dentistry. This is reflected in the suggested reading list and will also be reflected in the examination itself. The Residency Education Committee has prepared and compiled resources that can be utilized to prepare candidates for clinical practice. The information provided is an expression of the individual diplomat’s technique and is not a direct reflection of the exam.

### **Books**

#### **Anatomy:**

1. Evans HE. *Miller’s Anatomy of the Dog*. 5<sup>th</sup> ed. Philadelphia: WB Saunders, 2020.
2. Schroeder HE. *Oral Structural Biology*. New York: Thieme Medical Publishers, 1991.

### Anesthesia:

1. Tranquilli WJ and *et al* eds. *Lumb & Jones Veterinary Anesthesia and Analgesia*. 5<sup>th</sup> ed. Baltimore: Williams & Wilkins, 2015.

### Dental Materials:

1. Anusavice KJ and *et al* eds. *Philips' Science of Dental Materials*. 12<sup>th</sup> ed. Philadelphia: WB Saunders, 2012.
2. Sakaguchi R and *et al* eds. *Craig's Restorative Dental Materials*. 15<sup>th</sup> ed. St. Louis: Mosby Elsevier, 2019.

### Embryology:

1. Nanci A. *Ten Cate's Oral Histology: Development, Structure, and Function*. 9<sup>th</sup> ed. St. Louis: Mosby, 2016.
2. Chiego, DJ. *Essentials of Oral Histology and Embryology: A Clinical Approach*. 5<sup>th</sup> ed. Mosby Elsevier. 2018.

### Endodontics:

1. Hargreaves KM and Berman L. *Cohen's Pathways of the Pulp*. 12<sup>th</sup> ed. St. Louis: Mosby, 2020.

### Equine:

1. Easley J, Dixon PM, and Schumacher J. *Equine Dentistry*. 3<sup>rd</sup> ed. Philadelphia: Saunders, 2010.
2. Easley J. Advances in Equine Dentistry. *Veterinary Clinics of North America: Equine Practice* 29(2). Philadelphia: Saunders-Elsevier, 2013

### Exotics:

1. Capello V, Gracis M, and Lennox, A. *Rabbit and Rodent Dentistry*. Philadelphia: WB Saunders, 2005.
2. Emily PE, Eisner E. *Zoo and Wild Animal Dentistry*. Hoboken:Wiley-Blackwell, 2021.
3. Quesenberry KE, et al. Small Mammal Dentistry in. *Ferrets, Rabbits and Rodents Clinical Medicine and Surgery*. 4<sup>th</sup> ed. Philadelphia: Elsevier, 2021.  
Online version

### Orthodontics:

1. Proffit WR and *et al* eds. *Contemporary Orthodontics*. 6<sup>th</sup> ed. St. Louis: Mosby- Year Book, 2018.

### Pathology:

1. Regezi JA, Sciubba JJ, Jordan RCK. *Oral Pathology: Clinical Pathologic Correlations*. 7<sup>th</sup> ed. Philadelphia: Saunders, 2016.
2. Murphy BG, Bell CM, Soukup JW. *Veterinary Oral and Maxillofacial Pathology*. 1<sup>st</sup> ed. Hoboken: Wiley & Sons, 2020.

Periodontology:

1. Newman MG, Takei H, Klokkevold PR, Carranza FA. *Carranza's Clinical Periodontology*. 13<sup>th</sup> ed. Philadelphia: Saunders, 2018.
2. Wolf HF, Rateitschak KH, Rateitschak EM, Hassell TM. *Color Atlas of Dental Medicine – Periodontology*. 3<sup>rd</sup> ed. New York: Thieme Medical Publishers, 2005.

Radiology:

1. DuPont GA and DeBowes LJ. *Atlas of Dental Radiography in Dogs and Cats*. St. Louis: Saunders Elsevier, 2009.
2. White SC and Pharoah MJ. *Oral Radiology: Principles and Interpretation*. 8<sup>th</sup> ed. St. Louis: Mosby, 2018.

Restorative Dentistry / Prosthodontics:

1. Ritter A. *Sturdevant's Art and Science of Operative Dentistry*. 7<sup>th</sup> ed. St. Louis: Mosby, 2018.
2. Shillingburg HT. *Fundamentals of Fixed Prosthodontics*. 4<sup>th</sup> ed. Chicago: Quintessence Publishing Company. 2012.

Surgery:

1. Fossum TW. *Small Animal Surgery*. 5<sup>th</sup> ed. St. Louis: Mosby, 2018.
2. Hupp JR, Ellis III E, Tucker MR. *Contemporary Oral and Maxillofacial Surgery*. 7<sup>th</sup> ed. St. Louis: Mosby, 2018.
3. Johnson SA, Tobias KM. *Veterinary Surgery: Small Animal*. 2<sup>nd</sup> ed. Philadelphia: WB Saunders, 2018.
4. Verstraete FJM, Lommer MJ, Arzi B. *Oral and Maxillofacial Surgery in Dogs and Cats*. 2<sup>nd</sup> Ed. St. Louis: Elsevier, 2020.



### Small Animal Dentistry:

1. Holmstrom SE, Frost P, Eisner ER. *Veterinary Dental Techniques*. 3<sup>rd</sup> ed. Philadelphia: WB Saunders, 2004.
2. Holmstrom SE. *Veterinary Dentistry: A Team Approach*. 3<sup>rd</sup> ed. Saunders, 2019.
3. Holmstrom SE. Veterinary Dentistry. *Veterinary Clinics of North America: Small Animal Practice*. 35(4), p. 763-1072. Philadelphia: Saunders-Elsevier, 2005.
4. Holmstrom SE. Clinical Veterinary Dentistry. *Veterinary Clinics of North America: Small Animal Practice*. 43(3) p. 447-689. Philadelphia: SaundersElsevier, 2013.
5. Reiter AM, Gracis M, eds. *BSAVA Manual of Small Animal Dentistry*. 4<sup>th</sup> ed. Quedgeley: British Small Animal Veterinary Association, 2018.
6. Verstraete FJM, Tsugawa AJ. *Self-Assessment Color Review of Veterinary Dentistry*. 2<sup>nd</sup> ed. Boca Raton: CRC Press, 2015.
7. Lobprise HB and Dodd JR. *Wiggs Veterinary Dentistry Principles & Practice*. 2<sup>nd</sup> edition Wiley Blackwell, 2019.
8. Berkovitz B and Shellis RP. *The Teeth of Mammalian Vertebrates* 1<sup>st</sup> ed. Academic Press, 2018.

### Journals and Periodicals:

1. For the 2024 Phase 1 examination, questions will be created from literature that is IN PRINT prior to October 1, 2023. Questions will not be taken from literature published AFTER October 1, 2023. Literature that is an "epub ahead of print" or "early view article" will not be included unless they can be found IN PRINT prior to October 1, 2023. Journal of Veterinary Dentistry: 2013 to present, with certain seminal articles from prior to 10 years.
2. Dixon PM (2008) Equid Dentistry. *The Veterinary Journal*, 178(3) 307-424.
3. Frontiersin.org, particularly the Veterinary Dentistry and Oromaxillofacial Surgery section (online journal: <http://journal.frontiersin.org/journal/veterinary-science/section/veterinary-dentistry-and-oromaxillofacial-surgery#archive>)
4. Journal of Endodontics\*
5. Journal of Periodontology\*
6. Journal of Clinical Periodontology\*
7. Journal American Dental Association\*
6. American Journal of Dentistry\*

\*questions based from these journals are limited to the abstracts in JVD from the preceding 5 years.

### Other suggested journals that contain some valuable oral-dental articles, and that are AVDC-approved for meeting the AVDC Credentials Publication Requirement:

1. American Journal of Veterinary Research
2. Journal of the American Animal Hospital Association

3. Journal of the American Veterinary Medical Association
4. Journal of Small Animal Practice
5. Journal of Feline Medicine and Surgery
6. Journal of Veterinary Internal Medicine
7. Veterinary Comparative Orthopaedics and Traumatology
8. Veterinary Pathology
9. Veterinary Radiology & Ultrasound
10. Veterinary & Comparative Oncology
11. Veterinary Surgery

## **Passing Score, Examination Results, Repeat Examinations**

### **Phase I - Multiple Choice Question Examination**

A pre-set Pass cut score is NOT used. All questions are 'criterion-referenced' using the modified Angoff procedure to determine the degree of difficulty of that question for a minimally qualified entry-level veterinary dental specialist. The mean of the Angoff scores of the questions included in the examination is the pass cut-score. Typically, the mean Angoff score is in the region of or slightly below 70%.

### **Phase II - Practical Examination**

The scoring standards for the practical portion of the examination are scored based on likely clinical success of the procedure and based on generally accepted dental techniques as found in current textbooks and journals and practiced by Diplomates of the AVDC. For each procedure, a grading system of 0-100 based on predetermined criteria is used. The passing grade for a single procedure is 70%. All four core disciplines must be passed to pass the Phase II examination. The core disciplines are: periodontics, endodontics, oral surgery and operative/restorative/orthodontics. The scores of the graders are averaged for each specimen. The final grade of the practical examination is the average score of the procedures assigned. The Examination Committee reserves the right to recommend to the AVDC Board of Directors to fail a candidate in the practical examination, irrespective of the score obtained, if an error was performed by the candidate that would, in a clinical situation, result in serious harm to the patient.

For successful passing of the Phase II examination, a candidate must have passed each core discipline with  $\geq 70\%$  for the tested procedures in that core. The examination fee for Phase II will be the same for all candidates regardless of which cores, or how many cores, are taken.

Candidates returning to take any remaining cores of the Phase II examination will be required to be present for the entire examination process. All candidates must attend the Examination Security meeting held the evening before the first examination day. Candidates will not be allowed to remove their equipment or pack up until after the final core session is completed. The specific day and start time of each core session will be provided to all candidates at the Examination Security meeting.

## **Disclosure of Examination Results**

Candidates will receive written notification of whether or not they passed Phase I of the examination within 45 days of the date of the examination. Results for all candidates are sent on the same day.

Candidates who are not successful in passing Phase I will be provided with an explanation of the deficiencies that prevented their passing the examination. For Phase I of the examination, information will be made available on whether the candidate passed or failed each major discipline category of the examination.

For Phase II of the examination the specific procedures that the candidate failed will be listed for the candidate. In addition, this document includes a comprehensive list of reasons for failing particular procedures in several recent years. Actual scores will not be released to candidates. Candidates will receive written notification of whether or not they passed Phase II of the examination within 45 days of the date of the examination, provided no issues arise.

## **Repeat Examinations**

The AVDC certifying examination has two parts: Phase I (written questions) and Phase II (practical examination). Candidates must pass Phase I of the certifying examination to be eligible to sit for Phase II.

Beginning with the first examination after approval of the credentials application, candidates shall have a limit of three attempts in consecutive years for each phase of the examination, with the exception of one deferral year, and subject to the requirement that candidates must have passed the Phase I examination in order to be eligible for the Phase II examination. Candidates who fail to pass either phase I or II of the certifying examination in three consecutive years, including a possible deferral year, may opt to resubmit a new credentials package fulfilling the current credentials. Exceptions to this limit on number of examination attempts may be made by the Board of Directors following petition from the candidate for one additional attempt per phase of the examination; the petition must include the candidate's proposed examination preparation action plan, which is subject to review and approval by the Board. The Board shall have the right to consider extenuating circumstances.

Candidates wishing to retake Phase I or Phase II of the examination are to complete, sign and submit the Re-Examination Form, which is available for down-loading from the AVDC

web site, in the Examination documents section of the *Information for Registered Trainees* page.

## **Examination Security and Candidate Misconduct**

Any questions before the examination regarding the examination are to be directed via e-mail to the Executive Secretary of the AVDC ([ExecSec@AVDC.org](mailto:ExecSec@AVDC.org)) or, if the Executive Secretary is unavailable, to the Chair of the Examination Committee. Questions will be answered in writing and copies will be sent to all candidates. **It is strictly forbidden to have direct or indirect contact with other members of the Examination Committee regarding the process, format, or content of the examination, from the date that an applicant is notified that s/he is a candidate for the examination until the examination has been completed.** Any breach of these rules can be considered reason for action by the Board of Directors to deny a candidate admission to the examination.

**The Small Animal Examination Committee leaders for the 2024 Examination consist of: Chad Lothamer (Chair), Kate Block (Chair-Designate), and Brenda Mulherin (Past Chair).**

Robert Malinowski, DVM, MA, PhD from Veterinary Specialty Exams, LLC consulting services will be assisting with examination security procedures, calibration, and overall test analysis.

**Examination security is a primary concern for AVDC.** Do not bring personal materials (e.g., notes, books, tape recorders, photographic devices, calculators, computers, cellular phones) to the examination room. References are not to be consulted during the examination process, and self-archiving of radiograph images is breach of exam security and confidentiality. The examination material is not to be divulged to others. See the specific language in the Examination Security Form. Suspicious behavior during either Phase 1 or Phase 2 Exams may cause the candidate's examination results to be invalidated.

**Candidates: Complete and sign the Examination Security Form and return it to the AVDC Executive Secretary by October 31<sup>st</sup> of the year before the examination for the Phase I examination and by March 1<sup>st</sup> for the Phase II examination.** The Examination Security Form (EXAM-950) is available on the Preparing for the AVDC Examination section of the Resident Resources section of the AVDC website.

## **AVDC POLICY ON APPEAL OF ADVERSE DECISIONS**

The AVDC Policy and Procedures (Form EXAM-970) is available on the Preparing for the AVDC Examination link on the Resident Resources page of the AVDC web site.