Learning in Surgery: A Resident’s Perspective

MAURICIO DUJOWICH, DVM, DACVS
VETERINARY SPECIALTY HOSPITAL
SAN DIEGO, CA
My Background

- 2004  Graduated from UC Davis
- 2004  Co-Founder/President VetPrep Corporation
- 2004-2005  Rotating internship
- 2005-2006  Surgical internship
- 2006  VetPrep goes live and immediately becomes Gold Standard for board preparation
- 2006-2009  Surgical Residency
- 2009-Present  Veterinary Specialty Hospital
- 2011  VetTechPrep goes live
Objectives of Residency

- Promote aptitude and clinical proficiency in diagnosis, operative treatment, and postoperative management
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- Instruct the resident in the science and practice of veterinary surgery and its supporting disciplines
- Provide resident the opportunity to pursue career goals in teaching, research, clinical service and/or specialty practice
Questions to Ask

- What are the goals of a residency program
  - Teach surgery skills?
  - Teach surgical knowledge?
  - Pass the board exam?
- Do programs put more weight on one over the other?
- Do programs meet ACVS Objectives?
Residency Overview

- 3 or 4 year program
- Soft tissue surgery
- Orthopedic surgery
- Neurosurgery
- Microvascular surgery
- Minimally invasive surgery
Typical Resident Week

- In clinics
- Receive cases one day and cut the next
  - Supervision is present depending on resident experience, level of case difficulty, faculty availability, 3rd year resident availability
- Journal club
- Case discussion once per week
- Daily rounds with students
- Depending on time of year may or may not be teaching surgery lab
- May or may not be on call
Resident’s Objectives

- Meet credentialing requirements
  - Publish paper
  - Complete log
  - Pass board exam
- Hopefully become a competent surgeon
Residency Requirements

- **Must complete surgical log**
  - A predetermined number of certain types of cases must be completed
  - A minimum of 400 surgical procedures
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- **At least 50% of each Core Curriculum Category must be supervised by a Diplomate**
### Board Examination

<table>
<thead>
<tr>
<th>Systems</th>
<th>Slatter, Pages</th>
<th>Study Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General Surgery/Asepsis/physiology/biology/technique</td>
<td>223 Chapters 1-4, 6-19 (1-86, 113-249)</td>
<td>7.5</td>
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<tr>
<td>2. Alimentary/Nutrition</td>
<td>383</td>
<td>11.5</td>
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<tr>
<td>3. Anesthesia, Critical care, Pharmacology</td>
<td>128 Chapters 177-183, (2563-2629)</td>
<td>4.5</td>
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<tr>
<td>4. Cardiovascular &amp; Hemodynamic</td>
<td>188 Chapters 58-73 (903-1091)</td>
<td>5.5</td>
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<tr>
<td>5. Dermatology, Integument</td>
<td>128 Chapters 19-26 (250-372)</td>
<td>4.5</td>
</tr>
<tr>
<td>6. Endocrine</td>
<td>72 Chapters 116-120 (1677-1736)</td>
<td>2.5</td>
</tr>
<tr>
<td>7. Musculoskeletal</td>
<td>532 Chapters 126-160 (1774-2306)</td>
<td>19.5</td>
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<tr>
<td>8. Neurology</td>
<td>104 Chapters 74-85 (1092-1288)</td>
<td>6</td>
</tr>
<tr>
<td>9. Oncology</td>
<td>106 Chapters 161-176 (2307-2602)</td>
<td>4</td>
</tr>
<tr>
<td>10. Respiratory</td>
<td>170 Chapters 27-28, 47-57 (373-404, 763-902)</td>
<td>5.5</td>
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<tr>
<td>11. Otology (combined with endocrine)</td>
<td>36 Chapters 121-124 (1737-1773)</td>
<td>2</td>
</tr>
<tr>
<td>12. Urogenital</td>
<td>189 Chapters 98-115 (1487-1676)</td>
<td>2</td>
</tr>
<tr>
<td>13. Dentistry</td>
<td>79 Chapters 194-200 (2630-2709)</td>
<td>2</td>
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<tr>
<td><strong>Review</strong></td>
<td><strong>25.5</strong></td>
<td></td>
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Total Weeks: 23  
Total Days: 160  
Vacation: November 7, November 24, December 31, and January 1  
ACVS: October 8-10

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<th>74 Full Days</th>
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Study Days: 82 days + Review Days = 107.5 days  
Assume 2 Half Days equals 1 Full Day

There are approximately 560 pertinent journal articles to read when looking at the last 5 years of VetSurg and JAVMA. If you add in the “classics” to be about 40 articles, that will make it 600. Need to average at least 6 articles reviewed per day in order to have a chance at reviewing other Journals (VCOT, JVIM, VECCS, AJVR, JAHAA, etc.).
Board Examination

- From a resident’s perspective there is minimal guidance on preparation
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Given the guidelines/requirement

- Are all residency programs the same?
- What makes them different?
- What makes them better?
- What makes them worse?
- Where is the resident in all this?
Current Landscape of Resident Experience

• Impact of private specialty hospitals
  - Decreased faculty
  - Decreased research
  - Decreased innovation
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- **Residents heavily train residents**
Theoretically, the framework is there for residency programs
- Program director
- Program advisor
- Guidelines
- Big Exam
Assessment

- Question the guidance that faculty receive to effectively instruct resident
  - In other words just because they are in the OR does not mean the resident is learning
Assessment

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• It is difficult to assess if residents are actually receiving appropriate surgical guidance
Assessment

- Question the guidance that faculty receive to effectively instruct resident
  - In other words just because they are in the OR does not mean the resident is learning
- It is difficult to assess if residents are actually receiving appropriate surgical guidance
- There is little to no guidance in preparation for the board examination
ACVS Guidelines Needed

- Stability and structure within program
- Caseload
- Enthusiastic faculty
- Experienced faculty
- Faculty who enjoy research
- Faculty who inspire
- Faculty who work well together
- Resident needs to be a sponge
Potential Solutions

• ACVS, Universities, and Private sector should work together to develop plan that promotes faculty remaining at the universities
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Potential Solutions

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- Advanced and continuous training for faculty to ensure proper instruction in and out of the operating room
- Specific surgical training sessions for all residents provided by the ACVS to ensure a certain degree of exposure across the board
- We need to be more transparent with board examination preparation and provide more direct guidance
Insights From VetPrep Experience

• There is a severe need for additional learning tools
• Learning tools specifically geared for residents
• Learning tools will ideally help bridge the gap between residencies and provide outcomes assessments
• Built from a battery of experts
• Continuously improved
• Time commitment
• Sustainability