

From Cadaver to Clinic

Reimagining Anatomy & Physiology Labs for Contemporary Veterinary
Technology Education

Why This Conversation Matters

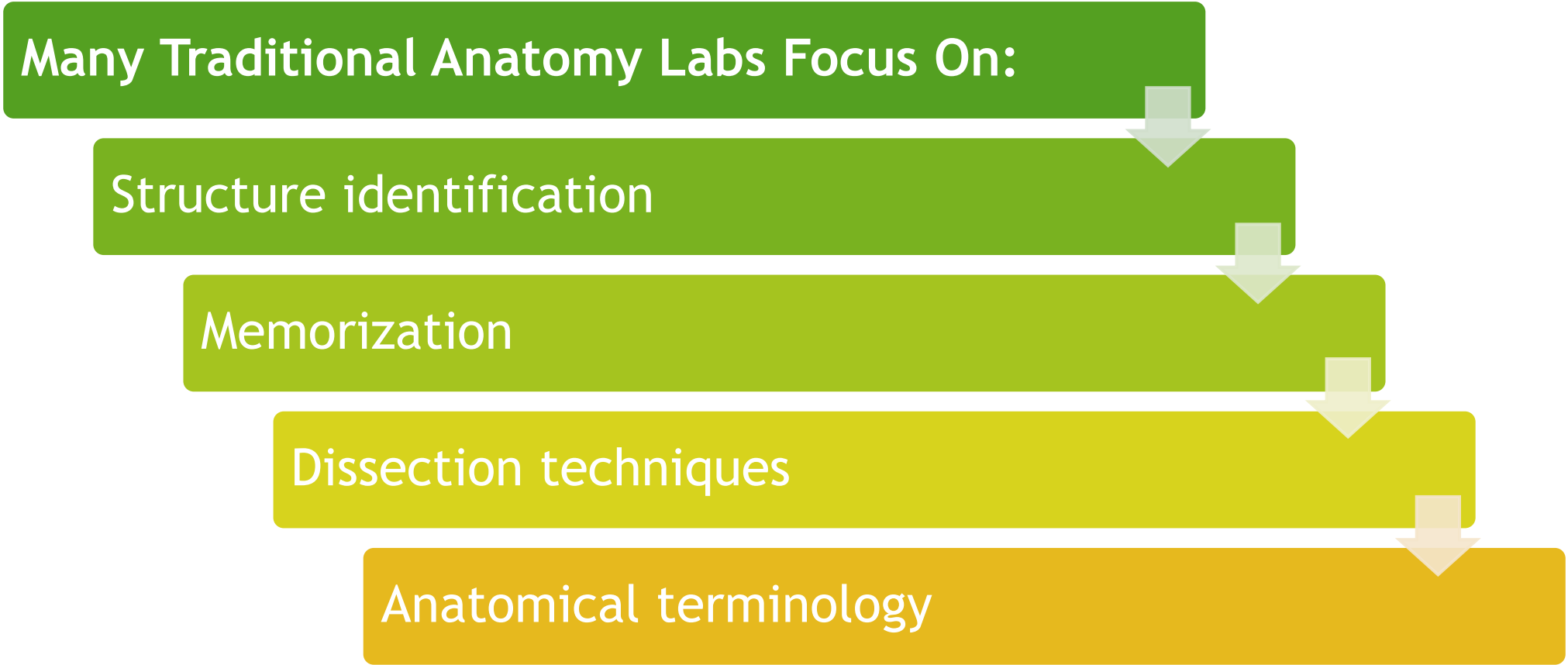
- ▶ **Veterinary Technology Education is Evolving**
- ▶ Employer expectations continue to change
- ▶ Curriculum time is increasingly limited
- ▶ Students expect relevant, engaging learning experiences
- ▶ Accreditation emphasizes competency-based outcomes
- ▶ Technology offers new teaching opportunities

The Question

- ▶ Are our anatomy and physiology laboratories preparing students for the work they will perform?

A Personal Observation

Many Traditional Anatomy Labs Focus On:



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graph TD; A[Many Traditional Anatomy Labs Focus On:] --> B[Structure identification]; B --> C[Memorization]; C --> D[Dissection techniques]; D --> E[Anatomical terminology];
```

Structure identification

Memorization

Dissection techniques

Anatomical terminology



A Personal Observation

- ▶ **Yet Graduates Are Expected To:**
 - ▶ Assess patients
 - ▶ Monitor anesthesia
 - ▶ Collect samples
 - ▶ Interpret diagnostics
 - ▶ Recognize abnormalities
 - ▶ Support clinical decision-making

A Personal Observation

- There is a gap between what we teach and what employers need.



What Employers Really Want

When Veterinarians Hire Credentialed Technicians, They Expect:

- ✓ Clinical reasoning
- ✓ Strong nursing skills
- ✓ Patient assessment
- ✓ Communication
- ✓ Anesthesia monitoring
- ✓ Diagnostic competence
- ✓ Recognition of abnormalities

A Simple Exercise

Think About Your Last Graduate

How often do they:

- Place catheters?
- Draw blood?
- Monitor anesthesia?
- Collect laboratory samples?
- Assist with dentistry?
- Obtain radiographs?

How often do they:

- Perform dissections?

The Purpose of Anatomy & Physiology

- ▶ **Anatomy & Physiology Is Not the Destination**
- ▶ It is the foundation for:
 - ▶ Nursing
 - ▶ Anesthesia
 - ▶ Dentistry
 - ▶ Laboratory procedures
 - ▶ Imaging
 - ▶ Patient assessment
 - ▶ Emergency care

The Technician Perspective

Technicians Need Functional Anatomy

Not:

- Every muscle origin and insertion

But:

- How muscles affect movement
- How injuries affect function
- Injection locations
- Safe restraint techniques

The Living Patient Problem

Cadavers Teach:

- ✓ Structure
- ✓ Spatial relationships
- ✓ Anatomical variation

Cadavers Cannot Teach:

- X Perfusion
- X Respiration
- X Pain
- X Cardiovascular function
- X Neurologic responses
- X Anesthesia monitoring
- X Patient assessment

What Students Actually Remember

- ▶ **Ask Yourself**
- ▶ One year after graduation, students may forget:
 - ▶ Small anatomical landmarks
 - ▶ Detailed muscle attachments
- ▶ But they remember:
 - ▶ How to assess hydration
 - ▶ How to place a catheter
 - ▶ How to recognize shock
 - ▶ How to monitor anesthesia
- ▶ **Why?**
- ▶ Because they use those skills every day.

AVMA CVTEA Essential Skills

- ▶ **Essential Skills Emphasize:**
 - ▶ Patient assessment
 - ▶ Laboratory procedures
 - ▶ Nursing care
 - ▶ Dentistry
 - ▶ Imaging
 - ▶ Anesthesia
 - ▶ Surgery
 - ▶ Communication

The Curriculum Challenge

If You Had 20 Hours

Would you choose:

- **Option A**
- Cadaver dissection

OR

- **Option B**
- Physical exams
- Imaging anatomy
- Clinical pathology
- Venipuncture anatomy
- Case studies
- Patient assessment

Reimagining Anatomy Labs

- ▶ **What If Anatomy Labs Included:**
 - ▶ Physical examination
 - ▶ Diagnostic imaging
 - ▶ Laboratory diagnostics
 - ▶ Clinical pathology correlation
 - ▶ Simulation exercises
 - ▶ Clinical case interpretation
- ▶ **Students learn anatomy through application.**

Example: Skeletal System

Traditional Lab

- Identify bones
- Label structures

Clinical Lab

- Interpret radiographs
- Recognize fractures
- Assess orthopedic abnormalities
- Correlate anatomy with lameness

Example: Muscular System

Traditional Lab

- Muscle identification

Clinical Lab

- Gait evaluation
- Lameness assessment
- Injection site selection
- Physical rehabilitation concepts

Example: Cardiovascular System

Traditional Lab

- Heart chambers
- Blood vessels

Clinical Lab

- Blood pressure measurement
- Heart sounds
- Perfusion assessment
- Shock recognition
- ECG basics

Example: Respiratory System

Traditional Lab

- Label structures

Clinical Lab

- Respiratory rates
- Oxygenation
- Airway assessment
- Anesthesia monitoring
- Emergency response

Example: Urinary System

Traditional Lab

- Kidney anatomy

Clinical Lab

- Urinalysis interpretation
- Urine specific gravity
- Hydration assessment
- Renal disease discussion

Example: Special Senses



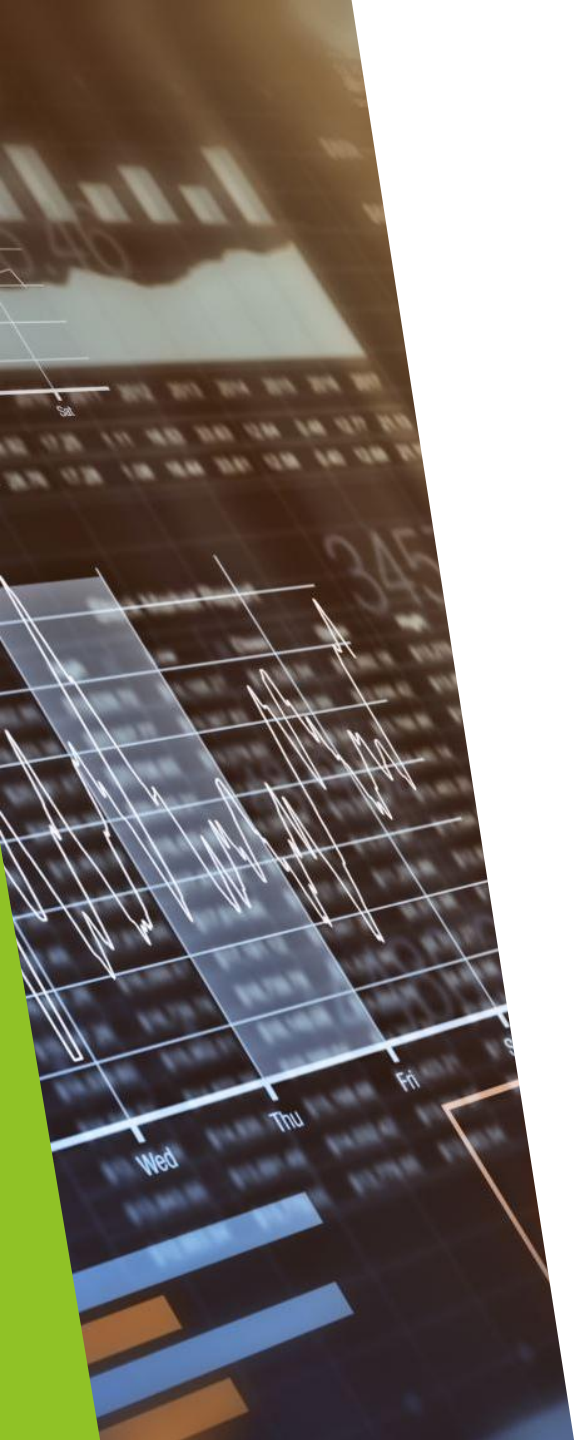
Traditional Lab

Eye and ear anatomy



Clinical Lab

Schirmer tear test
Fluorescein stain
Otoscopic examination
Neurologic assessment



Modern Teaching Tools

► Today's Resources Include:

- Digital radiography
 - Ultrasound images
 - CT and MRI examples
 - Virtual anatomy programs
 - 3D printed models
 - Simulation equipment
 - Clinical pathology databases
 - Interactive case studies
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Why Students Respond Positively



Students Want To Know

"Why does this matter?"



Clinical Application Answers That Question

Better engagement

Better retention

Greater confidence

Improved critical thinking

Improved readiness for practice

Common Concerns

"Students Need to See Real Anatomy"

- Absolutely.

The Question Is Not:

- Should students learn anatomy?

The Question Is:

- What is the most effective way to teach anatomy for technician practice?

The Technician We Are Trying to Graduate

A Practice-Ready Graduate Should Be Able To:

✓ Recognize normal vs abnormal

✓ Explain findings

✓ Connect physiology to patient status

✓ Assist the veterinarian

✓ Provide excellent nursing care

Outcomes That Matter

**Success
Is Not:**

- "Can the student identify the structure?"

**Success
Is:**

- "Can the student apply that knowledge to improve patient care?"

The Future of Veterinary Technology Education

We Can Move Toward:

- Applied learning
- Clinical integration
- Competency-based education
- Employer-driven outcomes
- Student-centered experiences

Anatomy remains essential.

The delivery model evolves.

Final Challenge

If a veterinarian could choose only one:

- A graduate who completed 20 hours of dissection

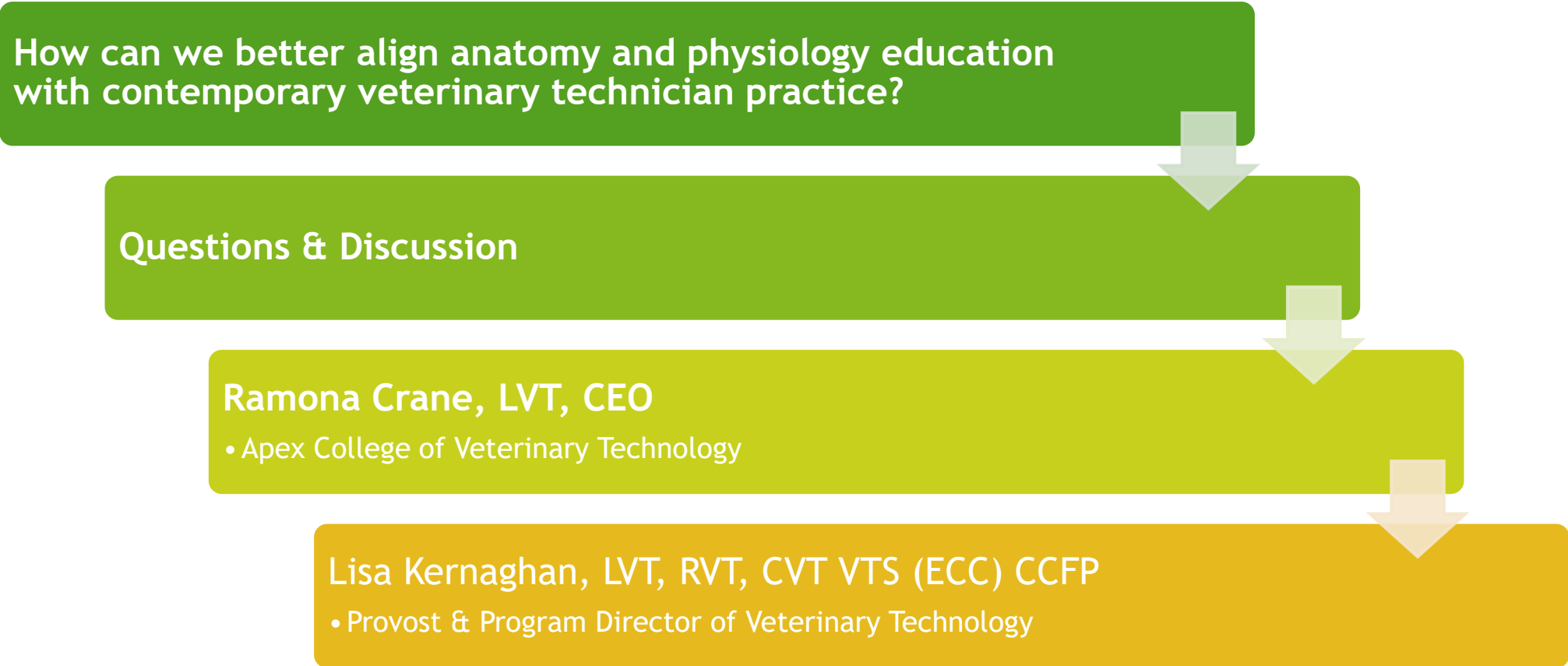
OR

- A graduate who completed 20 hours of:
 - Patient assessment
 - Imaging interpretation
 - Clinical pathology correlation
 - Anesthesia monitoring
 - Case-based problem solving

Which graduate would they hire?

Discussion

How can we better align anatomy and physiology education with contemporary veterinary technician practice?



Questions & Discussion

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