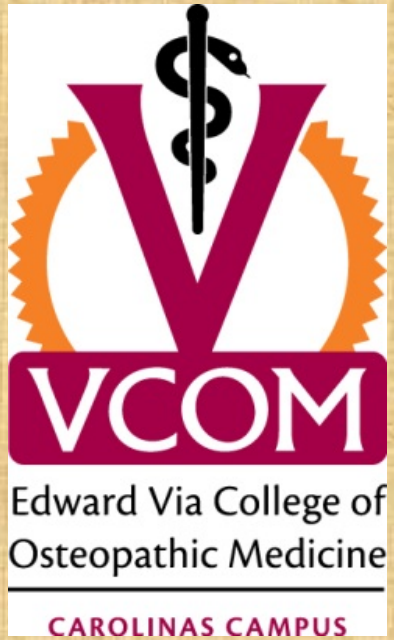
Split Dissection Lab, Peer-Teaching and Development of Clinical Case Studies In Gross Anatomy



Lance Paulman, PhD
Ron Januchowski, DO

Split Dissection Lab, Peer-Teaching and Development of Clinical Case Studies

- Presenting data showing students learn as effectively in the anatomy laboratory when peer-taught vs. direct dissection
- Demonstrating the process of developing a clinical case
- Use of cases in multiple disciplines to help eliminate “silo” mentality among students

WHY?

- Less time devoted to anatomy
- More students, fewer faculty
- SILO mentality of students
- Multidisciplinary engagement

VCOM

- 160+ students, 30 cadavers, 4 full-time faculty
- Crowded, noisy, difficult to give specific direction, students avoiding participation
- Split students into two groups, ½ dissect, ½ work up case studies, rotate ~ every 10 days
- At the end of each lab, there is a 15-20 minute period where non-dissecting group MUST sign into lab and be taught the material dissected that day

Peer-Peer Teaching

- Statistical analysis shows no difference in performance on practical exams if students dissect or are peer-taught
- Data was collected over a 1-year period
  - Three groups of questions identified on practical exams:
    - Material dissected by Group A, by Group B, or common material, such as radiology, osteology, etc.
- Practical exams were divided into Group A or B, then questions identified by above criteria and percentage of students in each group answering correctly were recorded.

Peer-Peer Teaching

- Statistic comparison showed that students who had not dissected material tested performed just as well on questions over that material as on questions over material they had dissected.
- Interestingly, overall the lowest average scores for both groups were on common material such as radiology or osteology, but not by a statistically significant amount

Case Studies

- Involve all basic science disciplines as well as clinical faculty
- Presented as patient scenarios; H&P given as appropriate to the case
- Student group must present written clinical report
- MUST HAVE VALUE TO STUDENTS

Building A Case

- Block system-semi systems-based curriculum
- Relevant case—must be related to current material being taught
- Input from as many disciplines as possible!
- Clinician review before presentation ABSOLUTELY necessary
- Start SIMPLE! Build difficulty as students learn

1st case--musculoskeletal

Patient is an 87 year old female, in relatively poor health. History indicates moderate diabetes for the last 15 years, controlled with diet; also has history of moderate hypertension controlled with medication. Patient is severely kyphotic, with difficulty in standing, sitting and walking. Pulse 80, bp 146/80, respiration 14, height 5'4" (down from 5'9" 15 years ago) weight 182. No history of tobacco use, moderate drinker (a glass or two of wine or beer before bed) and no history of illicit drug use. Chief complaint today is on "numbness and tingling" in arms and hands; pt reports that she has trouble grasping and holding things; her dexterity has decreased so much that she can no longer knit.

On examination you note that the fingertips are cold and somewhat dark, you also note muscle wasting over the shoulder and arms, more pronounced on the posterior side of the arm. Pt has markedly decreased grip strength, worse in left hand than in right but both decreased. You also note that when asked to hold her arms straight out, she has trouble raising her arms past 45 degrees and has a distinct tremor after only a few seconds.

Make Them Harder

Pt is 38 y.o. AAF, 5’7”, wt 125 lbs, WDWN in mild respiratory distress. Has dry, frequent cough. Chief complaint is cough, “tiredness”, and difficulty sleeping and working due to cough. Reports symptoms began “three or four weeks ago, maybe longer” but have gotten slowly worse until present. Also reports occasional bloody sputum subsequent to coughing spells.

Social Hx: Restaurant owner, works 12—16 hours/day, minimum exercise but “always on her feet”, eats moderately well. Reports past history of tobacco use beginning at age 13, two packs/day when she quit 18 months ago. No illicit drug use reported, social drinker 3-4 drinks/week.

Meds: Tums for heartburn from long hours working and hasty meals, Tylenol 500mg x2 for backache and sore feet, Triaminic adult cough syrup and expectorant for last month, dosage as on bottle.

Make It Detailed

Allergies: none reported

Surgical: D & C at age 19, 2 Caesarean sections for delivery, no other reported surgeries.

Hospitalizations: 2 OB/GYN admits for delivery, no other hospitalizations reported.

Family Hx: Both parents alive, father construction worker, mother works at library. Father has hx of htn, 1 MI 3 years previous, mother has rheumatoid arthritis; Both parents smoke ~1.5 packs/day for as long as remembered. Married for 17 years, gravida x3, one abortion at 19 y.o., 2 children at home 9 & 7 y.o. Husband is salesman for local car dealer.

PMH: Normal childhood vaccinations, chickenpox at age 7, no other medical hx.

ROS:

Neuro, Cardiopulmonary, GI, GU, M/S: as appropriate for the case

Grading Rubric

	0	1	2
Differentials	Did not include any differentials	Included one or two differentials; mostly matched the signs and symptoms for the case	Included 3 of more differentials, each which correlated with the signs and symptoms of the case
Testing	No testing ordered or inappropriate testing ordered	Included some appropriate testing with results; included some inappropriate testing	Included multiple appropriate testing to include imaging and lab studies with results for each appropriate to case
Definitive diagnosis	Inappropriate or no diagnosis provided	Diagnosis provided which did not fit the case workup done, but could be in the differential	Proper diagnosis provided which was appropriate for signs, symptoms and testing
Treatments	No treatments noted	Some treatments noted, but was not all inclusive	Treatment plan included medications, surgeries, humanistic elements, follow up and appropriate OMT
Prognosis	No prognosis noted	Prognosis included which noted only short or long-term concerns. Prognosis does not include treatment side effects or risks	Prognosis includes short and long term concerns of initial injury and of any treatments used

End Goal

- Present realistic, clinically relevant scenarios that challenge the students to use ALL their tools, not just a single discipline.
- Can be used in multiple ways—standardized patient scenarios, exam-relevant, small-group, etc.
- Side benefit—MAKE FACULTY GET OUTSIDE THEIR OWN LITTLE BOXES

Make It Open-ended

- This is my preference
- I like to let the students have the leeway to give any acceptable diagnosis-makes them think
- You may prefer to make the case presentation so specific that it can only give rise to a single diagnosis.

Thank You

- Any Questions?