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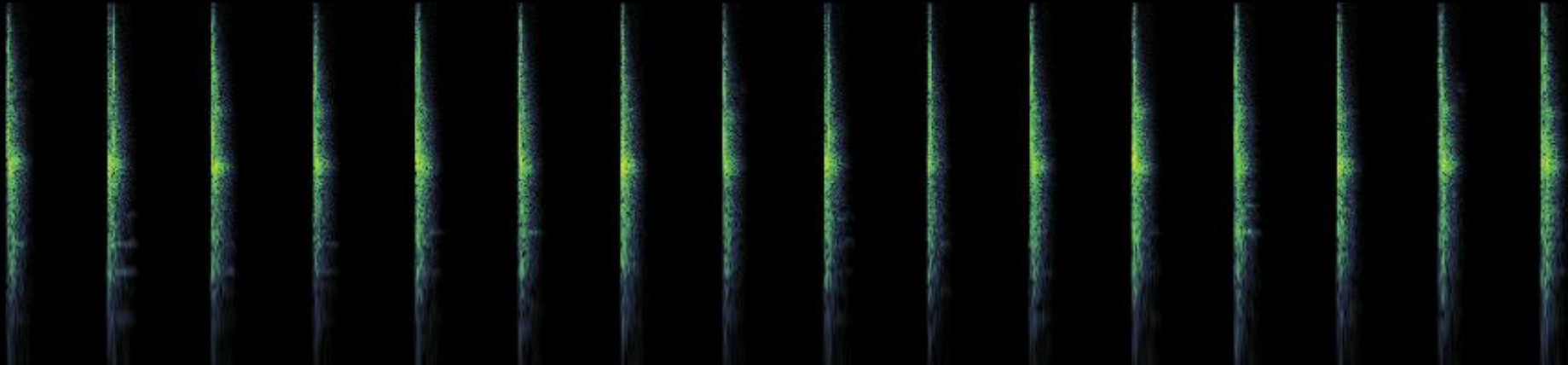
*Presented by
DJ Ctoe*





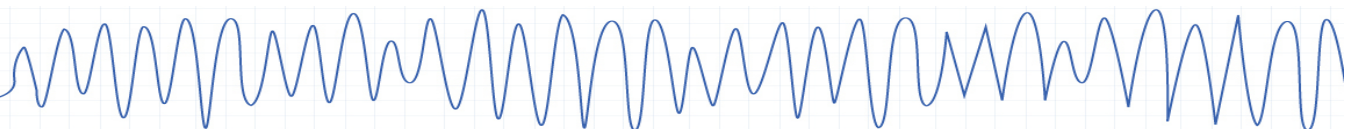
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100 BPM
Beats Per Minute



BACKGROUND

- ① Limited CPR time in UME
- ② Poor performance on UME acute care examination questions
- ③ No UME curriculum that primarily recruits/tailors to residents-as-teachers



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Combining Resident-As-Teachers with
Acute Care Simulation Training for Medical Students

Curriculum developed by Anthony Seto, FM-EM Resident

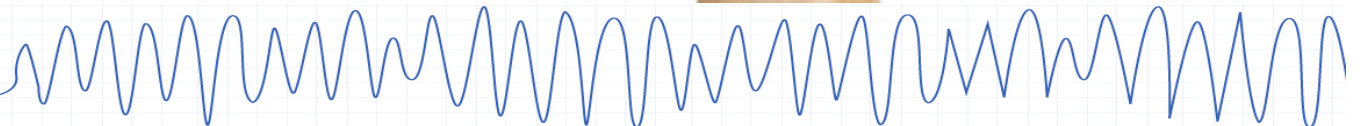
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PILOTS

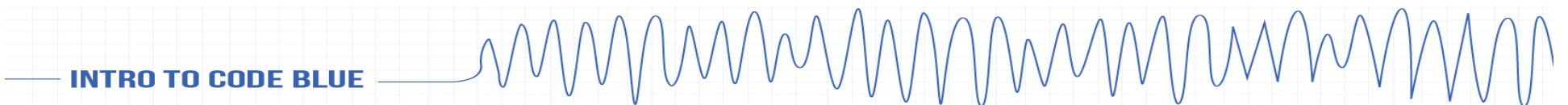
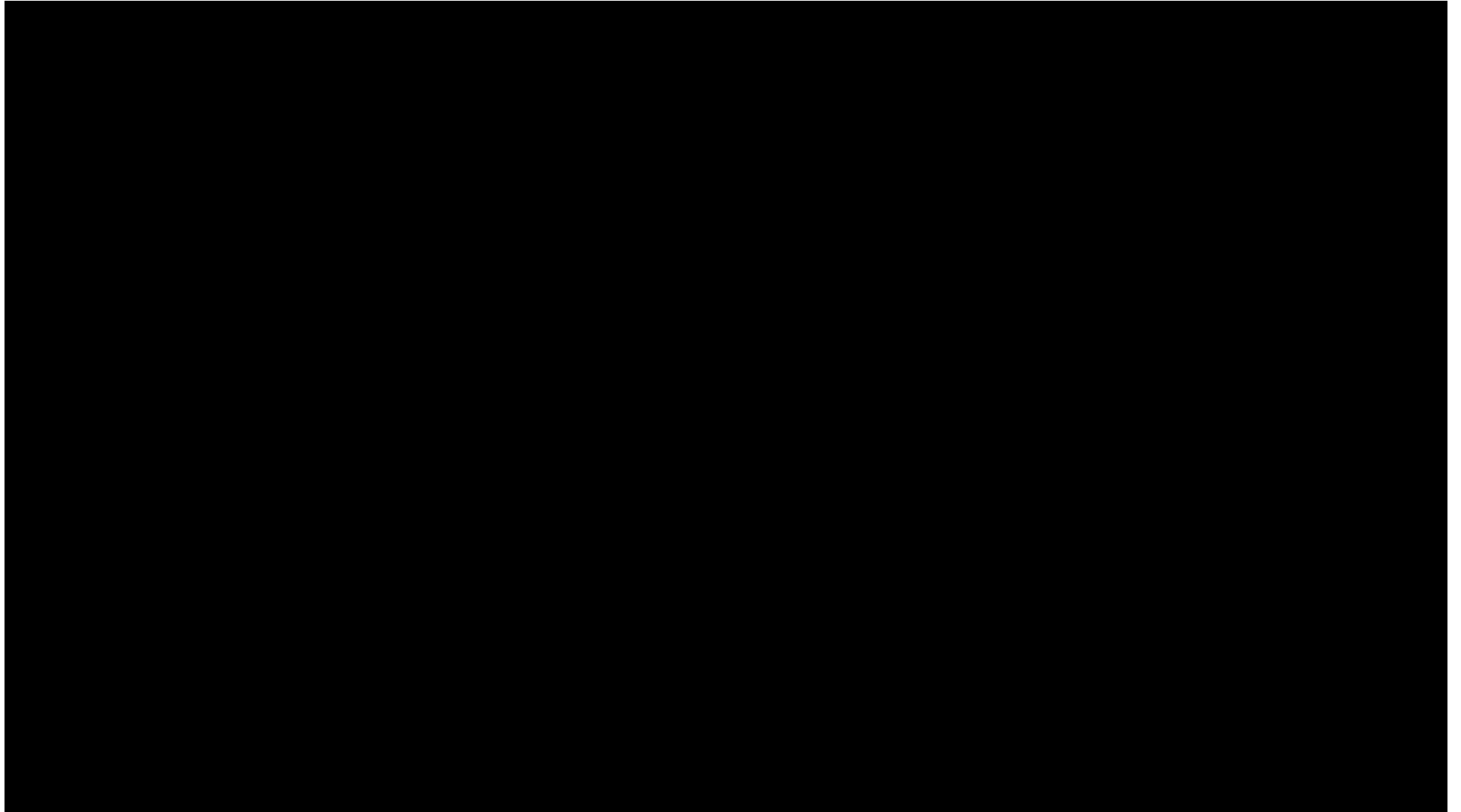
May 2014
(n = 4)



June 2014
(n = 78)



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STUDENT SURVEYS



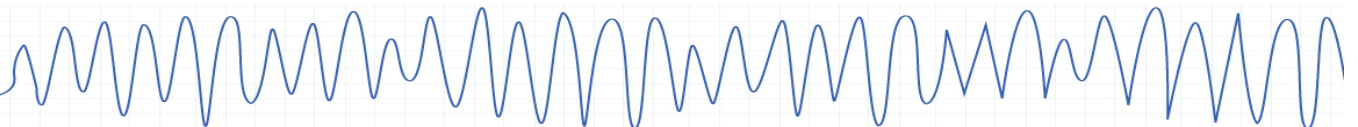
- ① Pre-Confidence Ratings
- ② Pre-Examination



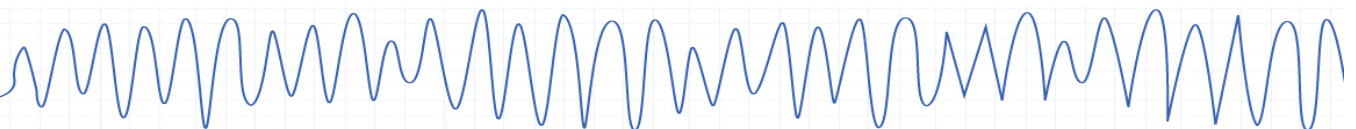
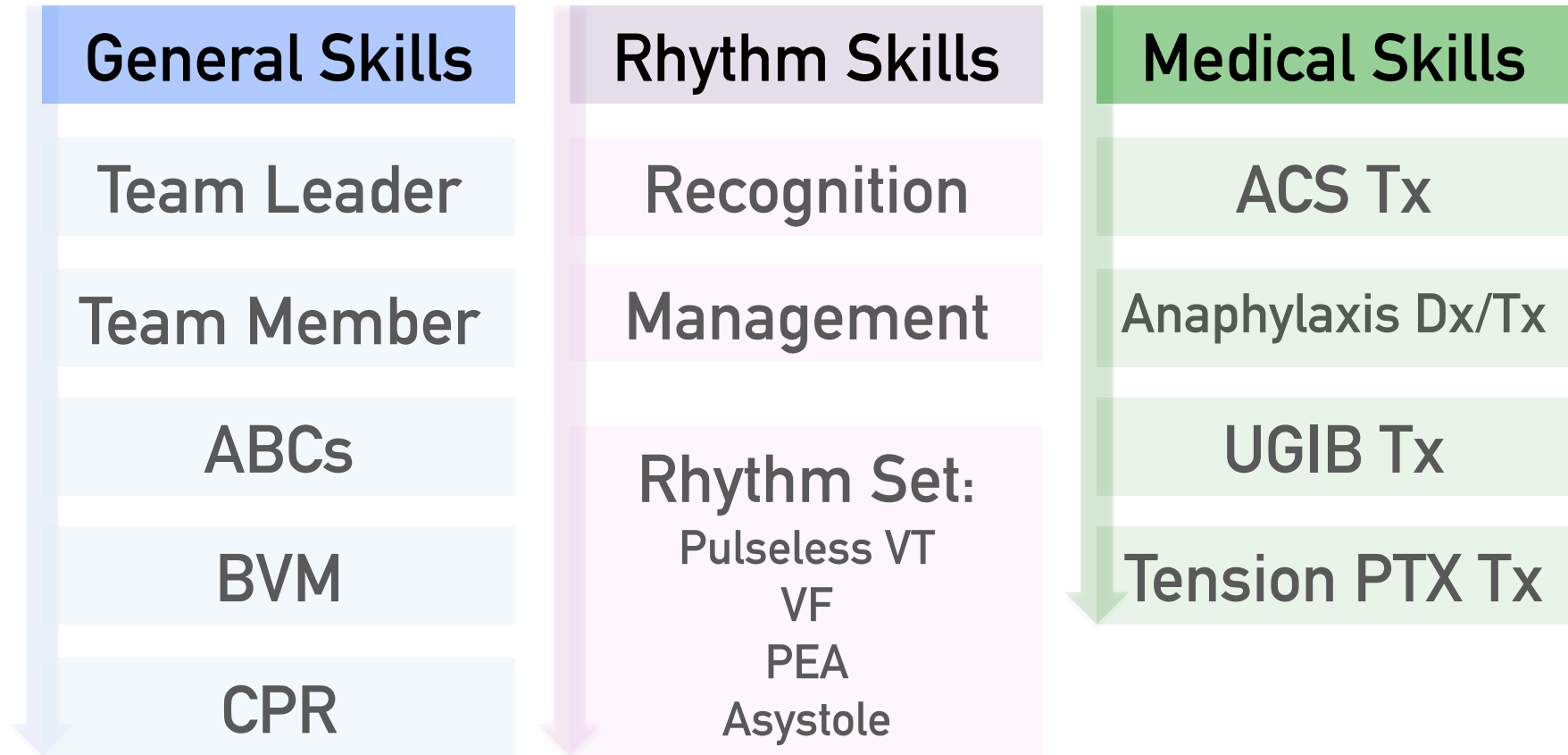
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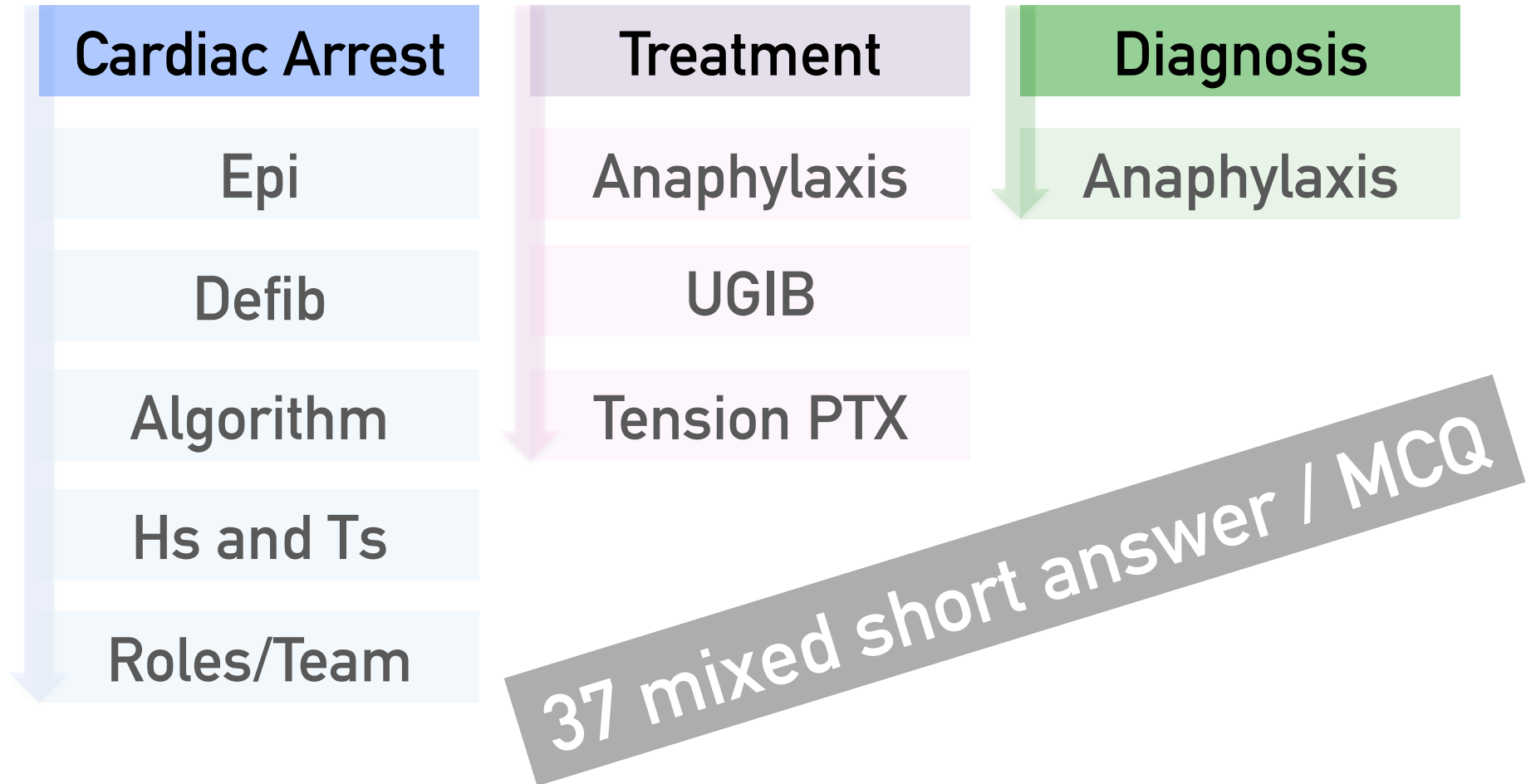
- ① Post-Confidence Ratings
- ② Post-Examination



STUDENT CONFIDENCE SURVEY



STUDENT EXAMINATION QUESTIONS



The table shows competencies ratings (n=42, 54% response rate), where...

1 = no confidence, 2 = poor confidence, 3 = neutral confidence,

4 = good confidence, 5 = excellent confidence

| Student Confidence... | Pre / SD | Post / SD | Absolute change (%) | p-value (repeated measures T-test) | Cohen's D (corrected with correlation) |
|------------------------------------|-----------|-----------|---------------------|------------------------------------|--|
| In managing PEA | 1.74/0.83 | 3.64/0.66 | 52 | <0.001 | 2.35 |
| As team leader | 1.57/0.80 | 3.29/0.71 | 52 | <0.001 | 2.23 |
| In managing VF | 1.88/0.89 | 3.69/0.68 | 49 | <0.001 | 2.22 |
| In managing asystole | 1.88/0.89 | 3.67/0.65 | 49 | <0.001 | 2.10 |
| In managing pulseless VT | 1.90/0.88 | 3.69/0.68 | 48 | <0.001 | 2.25 |
| In managing anaphylaxis | 2.05/0.88 | 3.76/0.73 | 46 | <0.001 | 2.01 |
| As team member | 2.26/1.11 | 3.88/0.71 | 42 | <0.001 | 1.53 |
| In managing UGIB | 2.26/1.01 | 3.62/0.70 | 38 | <0.001 | 1.57 |
| In managing tension PTX | 2.69/1.07 | 3.81/0.67 | 29 | <0.001 | 1.27 |
| In diagnosing anaphylaxis | 2.45/0.83 | 3.40/0.70 | 28 | <0.001 | 1.05 |
| In assessing and managing the ABCs | 2.90/0.91 | 3.98/0.60 | 27 | <0.001 | 1.26 |
| With CPR | 3.17/1.10 | 4.14/0.65 | 24 | <0.001 | 1.32 |
| In recognizing asystole | 3.48/1.17 | 4.29/0.81 | 19 | <0.001 | 0.73 |
| In recognizing VT | 3.29/0.94 | 3.90/0.76 | 16 | <0.001 | 0.76 |
| In recognizing VF | 3.24/0.91 | 3.83/0.79 | 16 | <0.001 | 0.69 |
| In recognizing PEA | 2.90/1.08 | 3.48/0.92 | 16 | <0.001 | 0.68 |
| With BVM | 3.62/0.73 | 4.21/0.61 | 14 | <0.001 | 0.81 |

Confidence Ratings

Examination Scores

Students took their post-ITCB examinations between day 0 to day 43 after the program. The earliest examination was completed 1-hour post-ITCB.

| N=42 | Pre (%) / SD (%) | Post (%) / SD (%) | Absolute change (%) | p-value (repeated measures T- test) | Cohen's D (corrected with correlation) |
|-------------------|---------------------|----------------------|------------------------|--|---|
| Examination Score | 63/17 | 92/7 | 29 | <0.001 | 1.89 |

Significant differences were noted, pre- versus post-ITCB program, for ITCB examination scores.

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FACILITATOR SURVEYS

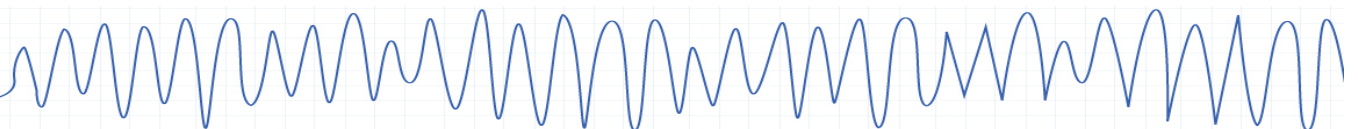
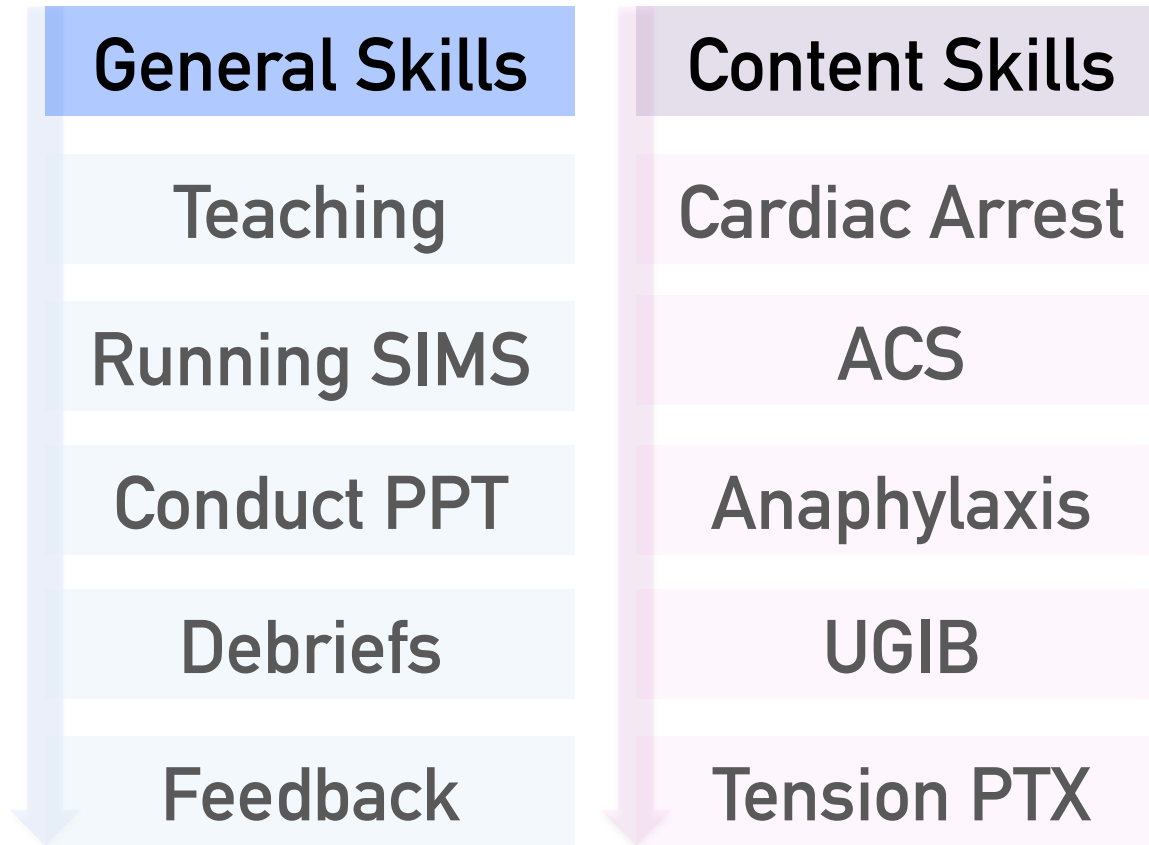


- ① Pre-Confidence Ratings
- ② Pre-Interest Ratings

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- ① Post-Confidence Ratings
- ② Post-Interest Ratings

FACILITATOR CONFIDENCE SURVEY



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FACILITATOR INTEREST LEVEL SURVEY

Interest Level

Teaching

Running SIMS

Debriefing

Conducting PPT

The table shows competencies ratings (n=6, 30% response rate), where...

1 = no confidence, 2 = poor confidence, 3 = neutral confidence,

4 = good confidence, 5 = excellent confidence

| Confidence in... | Pre / SD | Post / SD | Absolute change (%) | p-value (repeated measures T-test) | Cohen's D (corrected with correlation) |
|---|-----------|-----------|---------------------|------------------------------------|--|
| Teaching how to manage cardiac arrests | 3.67/0.82 | 4.50/0.55 | 19 | 0.002 | 2.58 |
| Facilitating debriefs | 3.50/1.38 | 4.33/0.82 | 19 | 0.02 | 1.61 |
| Teaching how to diagnose anaphylaxis | 3.67/1.03 | 4.50/0.55 | 19 | 0.02 | 1.37 |
| Running simulations | 3.67/0.82 | 4.50/0.55 | 19 | 0.02 | 1.16 |
| Teaching medical students | 3.83/0.75 | 4.50/0.55 | 15 | 0.01 | 1.40 |
| Teaching how to manage tension pneumothorax | 3.83/0.41 | 4.50/0.55 | 15 | 0.01 | 1.33 |
| Teaching how to manage UGIB | 3.83/0.41 | 4.50/0.55 | 15 | 0.01 | 1.33 |
| Conducting PowerPoint presentations | 3.67/1.03 | 4.33/1.03 | 15 | 0.01 | 1.28 |
| Teaching how to manage ACS | 4.00/0.63 | 4.50/0.54 | 11 | 0.04 | 0.92 |
| Teaching how to manage anaphylaxis | 4.00/0.63 | 4.50/0.55 | 11 | 0.04 | 0.92 |
| Giving feedback | 3.67/1.51 | 3.83/0.98 | 4 | 0.35 | 0.19 |

Confidence Ratings

Interest Levels

The table shows interest ratings (n=6, 30% response rate), where...

1 = zero interest, 2 = low interest, 3 = indifferent,

4 = some interest, 5 = strong interest

| Facilitator interest in... | Pre / SD | Post / SD | Absolute change (%) | p-value (repeated measures T-test) | Cohen's D (corrected with correlation) |
|-------------------------------------|-----------|-----------|---------------------|---------------------------------------|---|
| Facilitating debrief sessions | 4.17/1.33 | 4.5/0.84 | 7 | 0.09 | 2.15 |
| Conducting PowerPoint presentations | 4.00/1.26 | 4.33/0.82 | 8 | 0.09 | 1.23 |
| Running simulations | 4.50/0.55 | 4.6/0.52 | 4 | 0.18 | 0.42 |
| Teaching medical students | 4.67/0.52 | 4.83/0.41 | 3 | 0.18 | 0.40 |

Facilitators came into the program with high interest across all domains already. Post-ITCB, there is a trend towards slightly higher interest, although this was not statistically significant.

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FEEDBACK

“I loved how **simple** the set up was – it let us really **focus on process**”.

“**Concise** and to the point. The **facilitators were great**.”

“**A safe environment**, challenging, but very very helpful.”

“**Approach** to medical emergencies that was not previously covered in the curriculum”.

“**Good level** (not too high/complicated).”

“**Small group size** enhanced my learning.”

“Opportunity to act in different **roles** (and **review CPR**).”

“The **quizzes** showcase the lack of knowledge.”

“The **PPT** was easy to read yet informative.”

“Extra **practice** and review of many things I forgot from our one week learning it in class.”

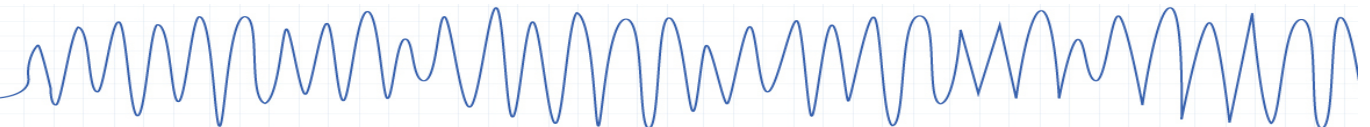
Curriculum Map

ITCB



| | | | | | | | | | | | | |
|---------------------------|-------------------------------------|--|---|---|-------------------|----------|----------------|--|------------|--|-----------|--|
| Y E A R 1 | COURSE 1 | | | COURSE 2 | | COURSE 3 | | | | | | |
| | | | | GLOBAL HEALTH | | | | | | | | |
| | WELL PHYSICIAN | | | | | | | | | | | |
| | PHYSICAL EXAM | | | | | | | | | | | |
| | COMMUNICATIONS | | | | | | | | | | | |
| | ETHICS | | | | PROCEDURAL SKILLS | | | | | | | |
| | POPULATION HEALTH | | | | | | | | | | | |
| | FAMILY MEDICINE CLINICAL EXPERIENCE | | | | | | | | | | | |
| Y E A R 2 | COURSE 4 | | I N T E G R A T I V E | E L E C T I V E S | COURSE 5 | | COURSE 6 | | COURSE 7 | | CLERKSHIP | |
| | | | | | | | | | UCLIC | | | |
| | | | | | | | | | EMERGENCY | | | |
| | | | | | | | | | INTERNAL | | | |
| | | | | | | | | | PEDIATRICS | | | |
| | | | | | | | | | SURGERY | | | |
| | | | | | | | | | OBS & GYNE | | | |
| | | | | | | | | | PSYCHIATRY | | | |
| | | | | | | | | | FAMILY | | | |
| | | | | | | | | | ANESTHESIA | | | |
| | WELL MAN | | | | WELL WOMAN | | | | | | ELECTIVES | |
| | FAMILY MED | | | | PHYSICIANSHIP | | | | | | COURSE 8 | |
| | | | | | PROCEDURAL SKILLS | | ETHICS | | | | | |
| | | | | | GLOBAL HEALTH | | COMMUNICATIONS | | | | | |
| | PHYSICAL EXAM | | | | | | | | | | | |
| | APPLIED EVIDENCE BASED MEDICINE | | | | | | | | | | | |
| Y E A R 3 | CLERKSHIP | | | | | | CLERKSHIP | | | | CLERKSHIP | |
| | UCLIC | | | | | | | | | | | |
| | EMERGENCY | | | | | | | | | | | |
| | INTERNAL MEDICINE | | | | | | | | | | | |
| | PEDIATRICS | | | | | | | | | | | |
| | SURGERY | | | | | | | | | | | |
| | OBSTETRICS AND GYNECOLOGY | | | | | | | | | | | |
| | PSYCHIATRY | | | | | | | | | | | |
| | FAMILY MEDICINE | | | | | | | | | | | |
| | ANESTHESIA | | | | | | | | | | | |
| | ELECTIVES | | | | | | | | | | | |
| | COURSE 8 | | | | | | | | | | | |

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INTRO TO **CODE BLUE** Special Thanks

- ITCB Undergraduate Medical Education Faculty Advisors: [Dr. Kevin Busche](#) and [Dr. Kevin McLaughlin](#)
- ITCB Emergency Medicine Faculty Advisor: [Dr. Kevin Hanrahan](#)
- Intro To Clinical Practice Course Chair: [Dr. David Keegan](#)
- Intro To Clinical Practice Program Coordinator: [Shannon Cayer](#)
- June 2014 ITCB Program Pilot: [UofC Class of 2016 \(77 Narwhals\)](#), [UofA pre-MS1 \(1\)](#), [UofC FM/IM Residents \(19\)](#), and [UofC ER staff \(1\)](#)
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- June 2014 ITCB Program Pilot Equipment Take-down: [Brodie Lipon](#)
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- Learner Manual Review: [Christina Yang \(UofA MS2\)](#) and [Ryan MacIsaac \(UofC MS3\)](#)
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- ITCB Presentation Review: [Christina Yang \(UofA MS2\)](#)
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- ITCB Banner Design: [Carmen Szeto](#)

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Email intro@ucalgary.ca if interested in teaching ITCB in June 2015!