

Hybrid Virtual and In- Person Simulation

~~Curriculum~~

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Background

- Project was initially started by UCSF Fresno Pediatric Resident Jessie Liu to help pediatric residents become more comfortable with pediatric codes by having virtual and in-person simulations designed to help offset the lack of volume during the height of the pandemic.
- Project was continued based on resident feedback that it did help them feel more comfortable participating in real codes.

Measurement Tools

- A pre-survey was sent to all residents on 09/25/2022.
- The survey consisted of 25 questions:
 - The first 10 questions were to help gauge experience levels of the residents.
 - The second 5 questions were to gauge confidence levels.
 - Final 10 questions were knowledge-based questions based on information from PALS.

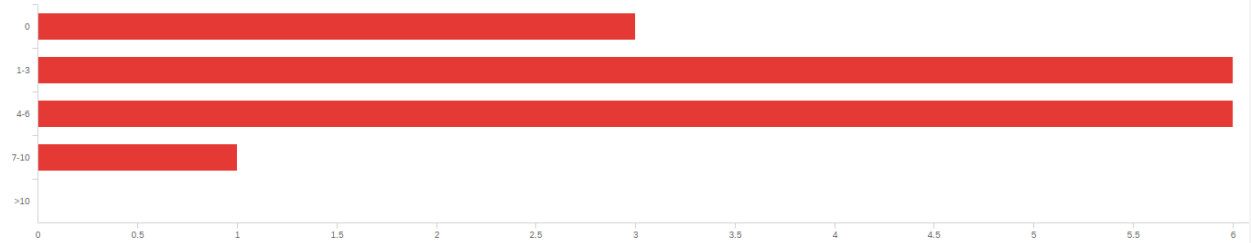
Results

- A total of 16 completed responses were obtained for both the pre- and post-surveys.
 - Incomplete and redundant surveys were removed as we had an identifier for the survey.
- Overall, we have found that residents felt more confident taking on a more leadership role and recognizing when a patient needed additional help.

Results

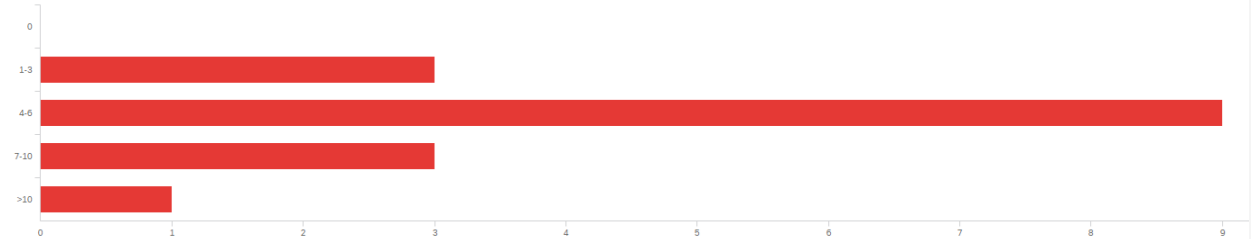
Pre-Survey

Q5 - How many simulations anywhere (excluding PALS and NRP) have you participated in during this residency program?



Post-Survey

Q5 - How many simulations anywhere (excluding PALS and NRP) have you participated in during this residency program?



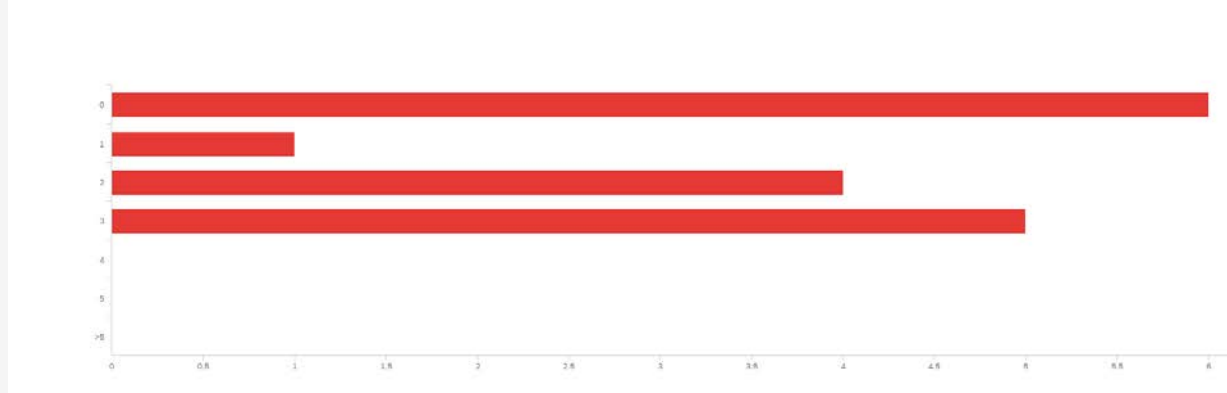
Results

Pre-Survey

Mean: 2.5

Std Deviation: 1.27

Q8 - How many virtual or hybrid simulations have you participated in?

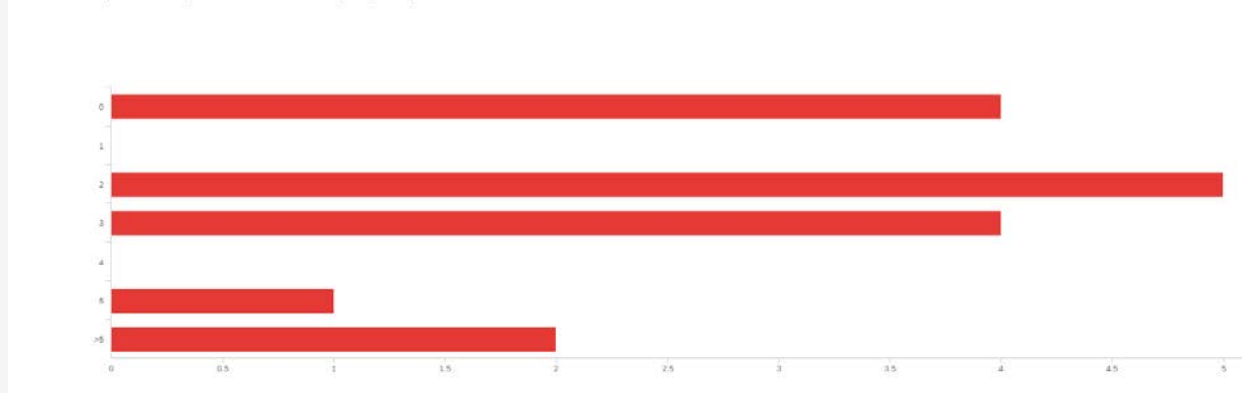


Post-Survey

Mean: 3.44

Std Deviation: 1.90

Q8 - How many virtual or hybrid simulations have you participated in?

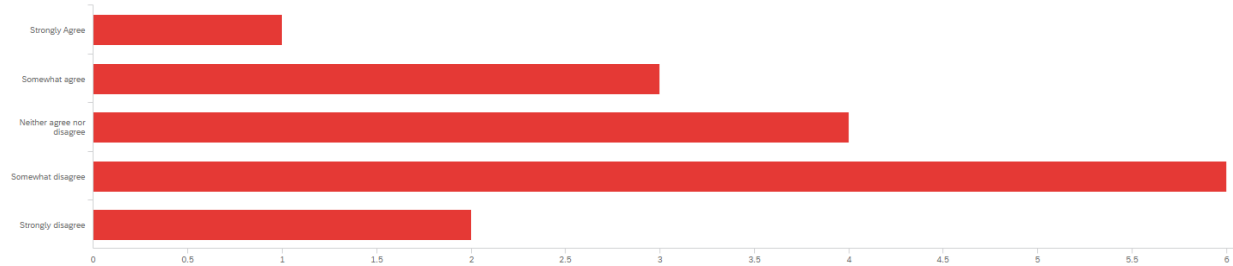


Results

Pre-Survey

4 residents felt confident (somewhat or strongly agree)

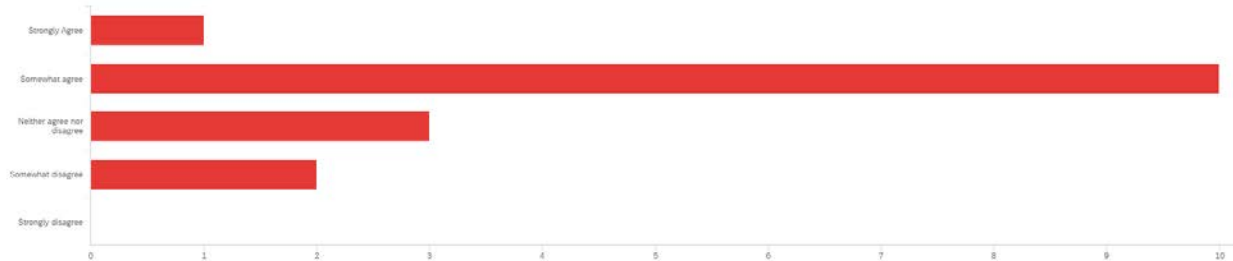
Q14 - I am confident in my ability to delegate tasks



Post-Survey

11 residents felt confident (somewhat or strongly agree)

Q14 - I am confident in my ability to delegate tasks



Results

Pre-Survey

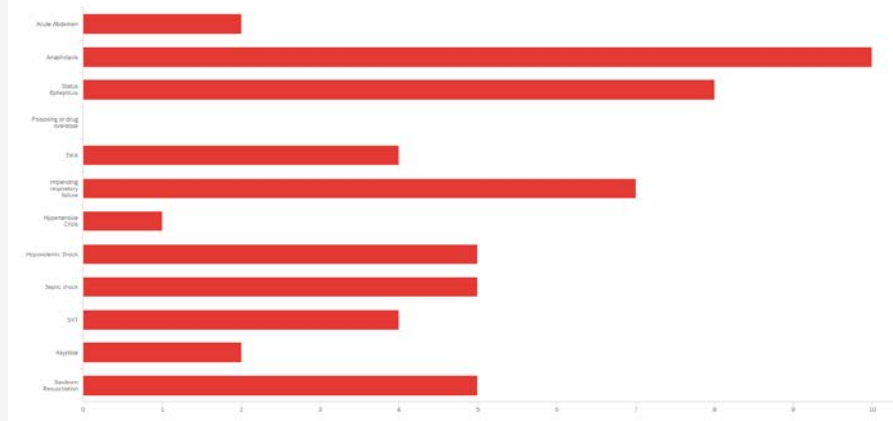
Q17 - Are you comfortable performing resuscitations and/or management independently without direct supervision in the following scenarios? Mark all that apply.



anaphylaxis
hypovolemic shock
newborn resuscitation

Post-

Q17 - Are you comfortable performing resuscitations and/or management independently without direct supervision in the following scenarios? Mark all that apply.



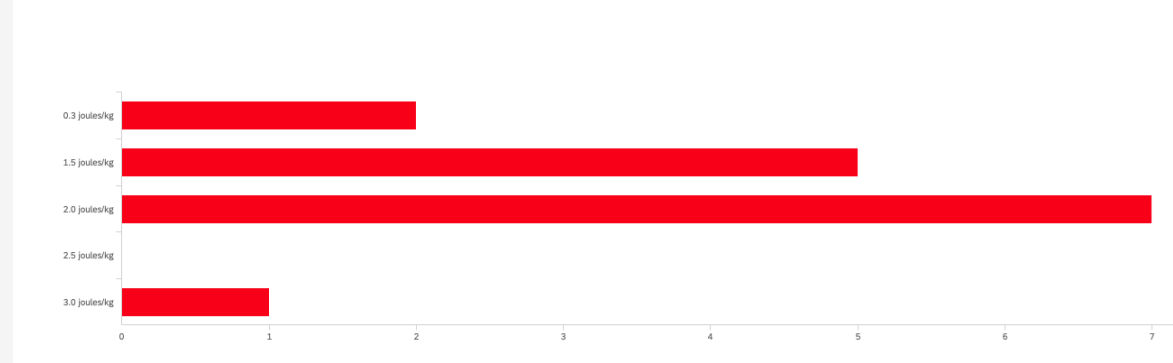
poisoning or drug overdose

acute abdomen
status epilepticus
DKA
impending respiratory failure
septic shock
hypertensive crisis
SVT
asystole

Results

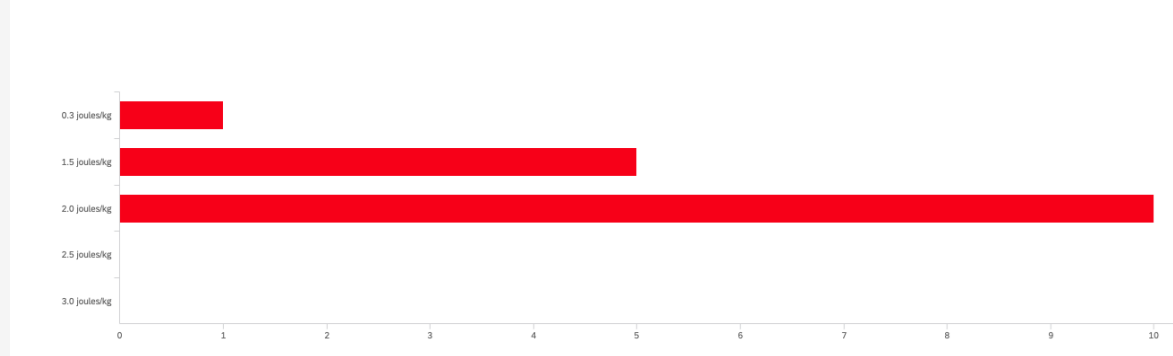
Pre-Survey

Q19 - What is the recommended first energy level used for defibrillation?



Post-Survey

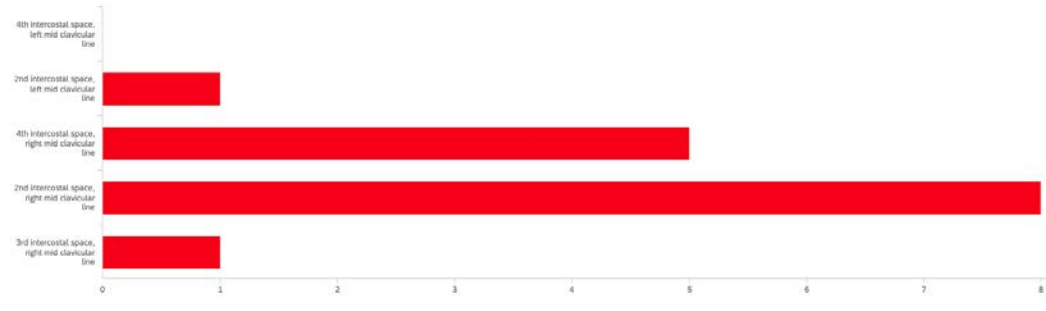
Q19 - What is the recommended first energy level used for defibrillation?



Results

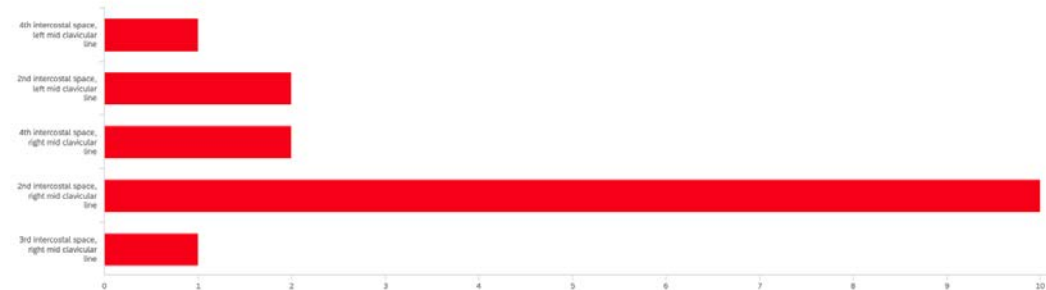
Pre-Survey

Q20 - To relieve a right tension pneumothorax, where should the needle be placed?



Post-Survey

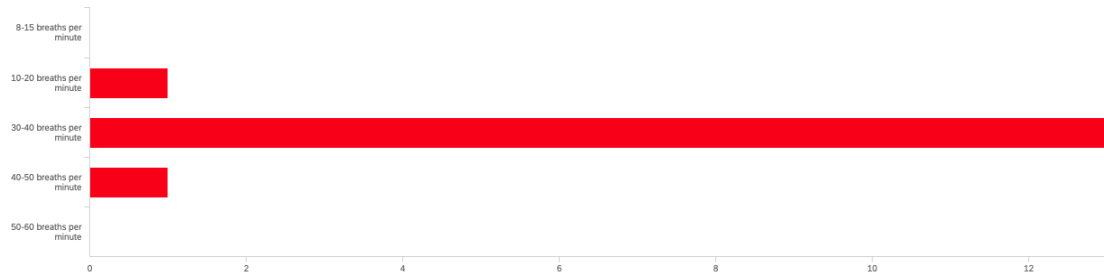
Q20 - To relieve a right tension pneumothorax, where should the needle be placed?



Results

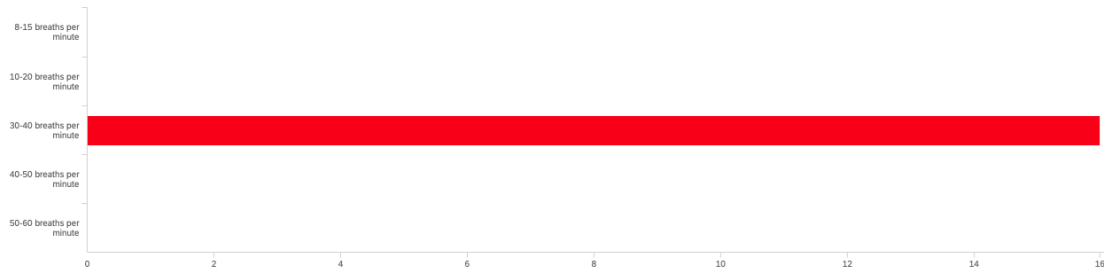
Pre-Survey

Q27 - What is the normal respiratory rate for an 18-month child?



Post-Survey

Q27 - What is the normal respiratory rate for an 18-month child?



Results

- While the pre- and post-surveys did clearly show improvements in residents' comfort in taking a leadership role or recognizing when more help is needed as they participated in more simulations, the effects in the knowledge portion were not as clear cut.
- While there were some improvements in the number of correct answers in some questions, other questions did not show any improvement.

Limitations

- The surveys did not address any possibly confounding factors, such as residents simply growing more confident as they progressed through the year.
- Some residents had considerably less exposure despite more frequent simulations between nights, away rotations, and vacation.
- Unsure of how comfort level in a simulation translates to performance in a real code.

Thank you

- Thank you Dr. Vargas for helping us with the simulations, as well as running through cases ahead of time when needed.
- Thank you to the residents who will be continuing this project- Sharon, Chris, and Zareh.

Questions? Comments?

Concerns?

Thanks for listening :)