NEWSLETTER

January 2021

Division updates:

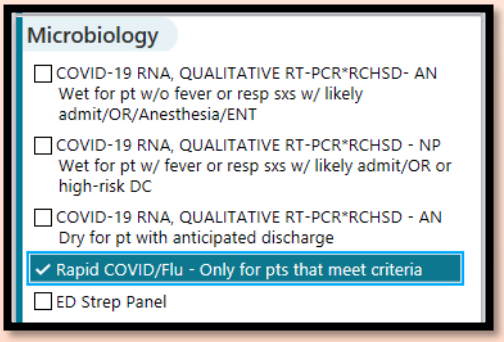
Vaccine Photos: **4,894** team members have been vaccinated for COVID-19, with **2,107** of those having received their second dose!

Adults in the ED 101:

If you missed our Adult 101 Session at the Division Conference, please follow this link for a recording:

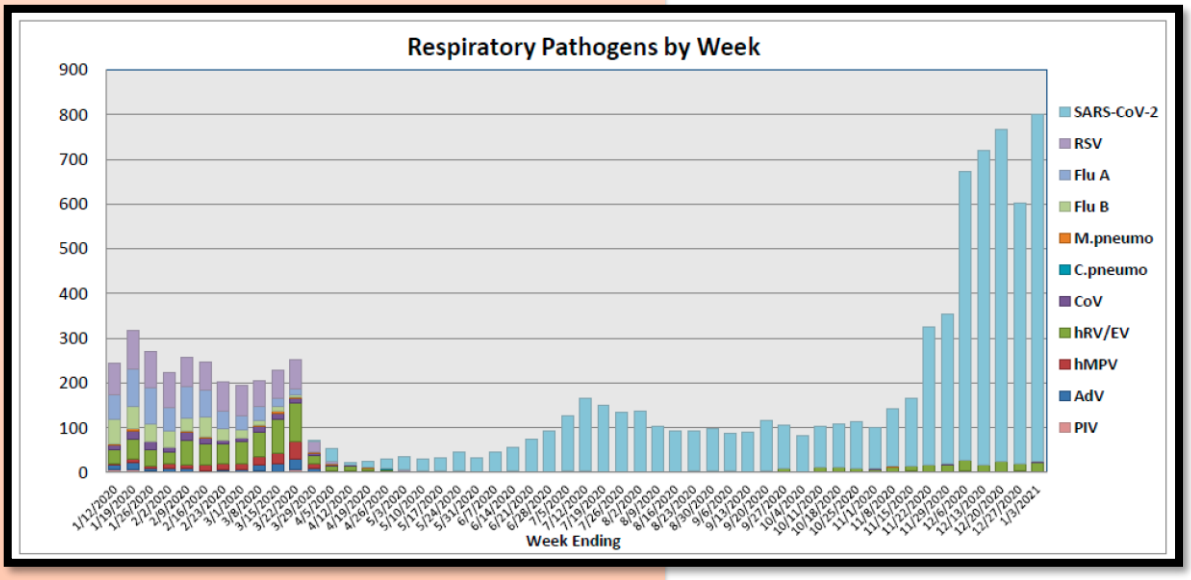
Adults in ED 101_1621 on Vimeo

Rapid COVID/Flu Test:



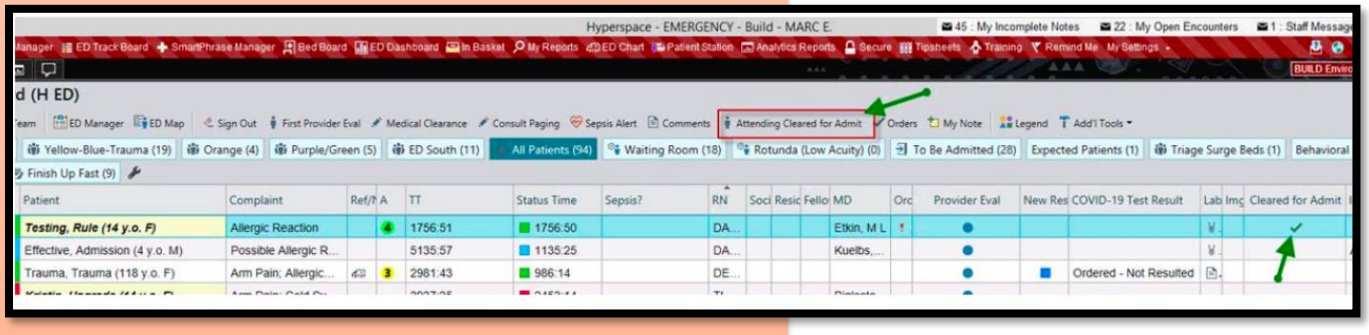
The Rapid COVID/Flu order has been added to the ED Quick list. Please only order this on a limited basis (criteria is listed once you select the order). It should still only be used in the specific scenarios outlined (for us in the ED, typically for patients with an OR time in the next 4-6 hours). Of note, to order this test, a new specimen (either wet AN or NP) must be collected and sent. For patients with a specimen already In Process, we still must call the lab to ask if the specimen can be run rapid (FYI this may not always be possible depending on where the swab is in the process.)

Respiratory Pathogens by Week



Epic: → *available the week of 2/1/2021*

- **Situation**: PEM attendings have not been able to evaluate patients prior to being admitted to OR
- **Background**: Patients that come through ED for triage and assessment prior to admission to OR have been transferred prior PEM attending assessment
- **Assessment/Recommendation**: To ensure PEM attending has seen pt (+/- trainee being assigned), the attending will need to click 'Attending Cleared for Admit' before transfer (button located on ED Track board view)



Attending Cleared for Admit Workflow:

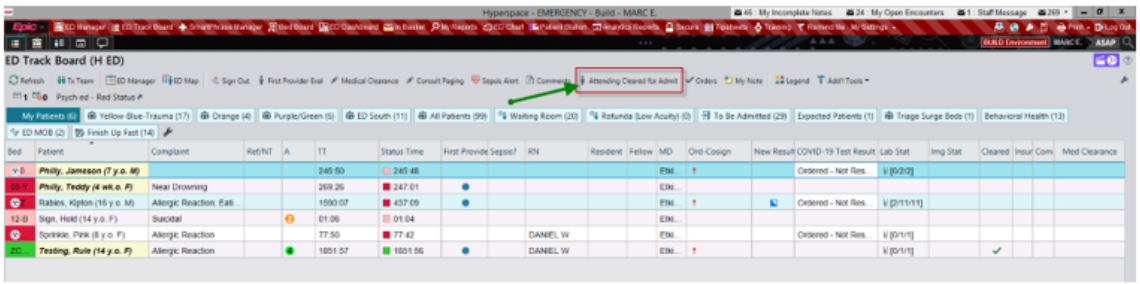
Epic TIP SHEET

Attending Cleared Patient for Admission

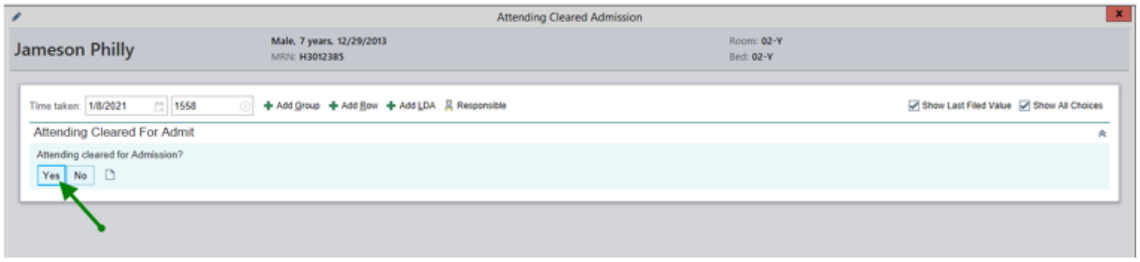
Prior to moving patients out of the department (to OR or to the floor), the attending must clear the patient for admission. This will be completed using a button on the track board and will be visible by the nurses and providers in the department.

Follow these steps to place the orders

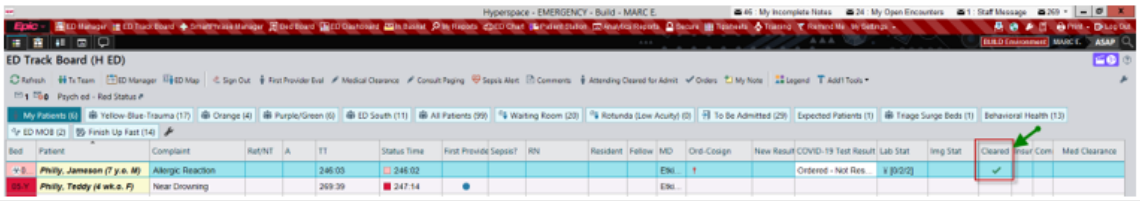
1. Attending Provider sees patient. Provider then highlights the patient's name on the track board and clicks the Attending Cleared for Admit button.



2. A window will open. Click Yes for attending cleared for admission.



3. A check mark will appear on the track board when the attending has completed the step above.



Clinical Director *Update*

Fareed Saleh, MD, MHA

- *What to expect with Adult Patients arriving at Rady ED*
  - **Scenario 1:** Adult patients as walk-ins - *current state of things*
  - **Scenario 2:** Transfer to Rady Children's (OSH ED/Inpatient to Rady inpatient units)
  - **Scenario 3:** EMS routes adult patients (up to 30 years 364 days) to Rady ED – *not happening yet as this needs to be activated at SD county level*
- *Adult care:*
  - For all OBGYN related consults (pregnant with trauma; pregnant with medical issues) please consult Sharp Memorial 'doc in the box' by one of two methods:
    - Call Sharp operator and ask for OB/GYN on call
    - 2) Call L&D (858-939-4350)

- *Supplies:*
  - Each trauma bay now has Bair hugger (1) and Ranger (IVF warmer) (1) for easy access and use as needed
- *Schedule*
  - Please make every effort to complete CCB in a timely manner
  - If help is needed, please consider extending shifts (if that is possible for providers) as well as using surge providers
- *CCB:*
  - For any positive blood culture, the MOOD/second YB/PG provider should take the call from micro (not CCB person)
  - If working from home and want to have RCHSD number appear when dialing a family please call 858-576-1700 and go through operator (alternatively, you can use an app such as Jabber)
  - Please remember to complete a wet read if working after Rady Radiology no longer reads X-rays
- *Surge Planning Operations:*
  - Condition of patient
    - a) If patient unstable or sick patients (acute MI, new-onset stroke) → call 911
    - b) if 911 is busy for unstable or sick patient → emergent transfer via tunnel
    - c) If patient clinically stable → notify Sharp Memorial ED attending, discharge and transfer POV
    - d) If patient does not have transportation or is stable but needs expedited care → tunnel
  - Transfer team
    - First option (when available): CHET
    - Second option: ED Nursing
- *Outreach - Anesthesia*
  - Please read the following from Anesthesia colleagues: "The OR front desk and OR management are aware that the 225856 will be utilized for urgent anesthesia requests from the ED. Our 7p-7a anesthesiologist on-call is still posted in the paging system for direct paging."
  - Please refrain from using Anesthesia STAT paging as this is not the correct method to page their service
- *Outreach - MBU*
  - For added direction provided by MBU service about NG tube placement for patients in the ED →

MBU Readmission Emergency Care Plan:

If patient meets criteria for inpatient care, she/he will need an NG tube placed for re-admission to the MBU.
- One attempt will be made in the ED. If unsuccessful, the tube will be placed upon arrival to the MBU.

- Patient was discharged with this behavioral plan, and parents and patient are aware of the plan.

- During the hours of 9am - 6pm, the MBU psychology team is available to come to the ED for assistance and behavioral management. Please page them for assistance.

- Patients may receive:one of the following: 1) Atarax, 2) Ativan, OR 3) Zyprexa PRN prior to NG tube placement.

- Patients are aware that neoprene restraints may be used if he/she tries to pull the NG tube out once it is placed.

When ordering food for the patient, please have the parent/guardian order the food, or provide the patient with 1-2 Boost supplement(s).

Thank you for providing care to this patient and helping us to maintain consistency in expectations for this patient/family.

The MBU team

Behavioral Health Updates

Fareed Saleh, MD MHA

- PEM attending can now place standing orders (24 hours per /7 days per week) for patients to be transferred from ED to Psych ED (**new process highlighted in green**) ** this process will be trialed over the last two weeks of January
  - Overall process does not change: ED nursing to triage patient, PEM physician evaluates and medically clears patient
  - CSW does their assessment and if patient is Psych ED eligible, then PEM attending places standing orders (see attached PDF); please note that home medications will need to be reordered as well*
  - PEM attending will need to send EPIC secure chat to Psychiatry attending on call for Psych ED to notify him/her of new patient
  - *We are working to streamline this process to avoid re-entering home meds
- For patients that may need a special request (iPad use for communication if patient as autism), please place Nursing communication order if requested by ED nursing

*** This process is being trialed during the last two weeks of January. Any updates or revisions to the process will be communicated to the group.**

Compassion **A**ccountability **R**espect **E**xcellence **S**ervice

Dr. Michael Gardiner

"Dr. Gardiner had incredible bedside manner when caring for a scared, tearful patient who had lost her tooth. He came to the bedside quickly to reinsert the patient's tooth and knelt by her side to explain the procedure at her eye level. Dr. Gardiner was gentle, connected with the patient, and explained the importance of her bravery in order to save her tooth. He was able to gain her trust by showing how much he cared for her. The patient held her mom's hands and took deep breaths while Dr. Gardiner successfully put her tooth back in place. He took just a few extra minutes to really make the patient feel comfortable and show her how much he cared. Thank you, Dr. Gardiner for treating all of your patients and families with so much kindness and compassion. We appreciate you!"

Dr. Sarah Gomez

"Dr. Gomez was great in a code that we had. She helped lead the ED team while we were waiting for PICU and helped communicate orders to the alcove promptly. After the code, she came up to me and asked how I was doing mentally, and I really appreciated that! Thanks Dr. Gomez."

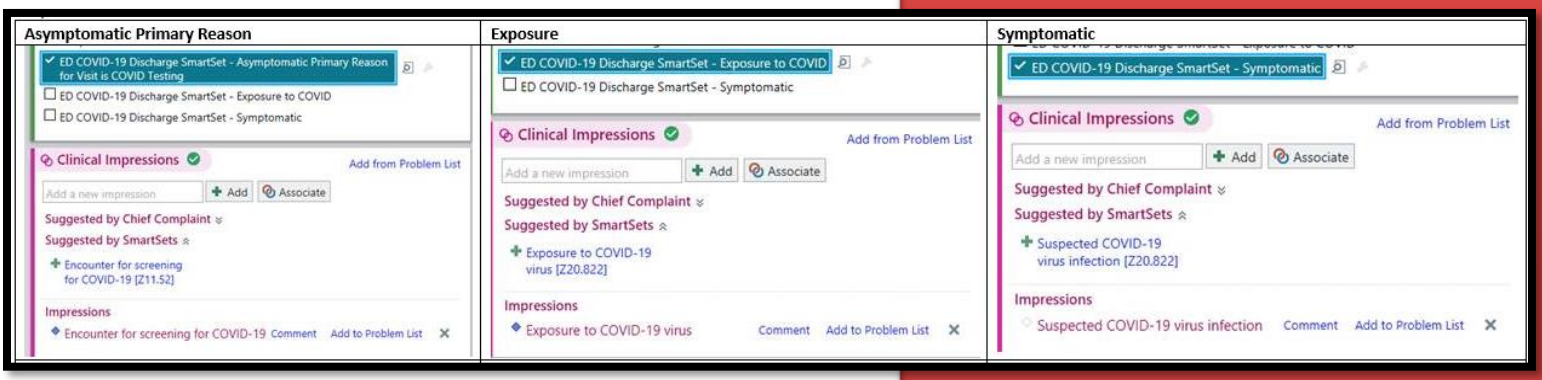
QUALITY Improvement Updates

Seema Shah, MD and Amy Bryl, MD

COVID-19 Testing and Billing:

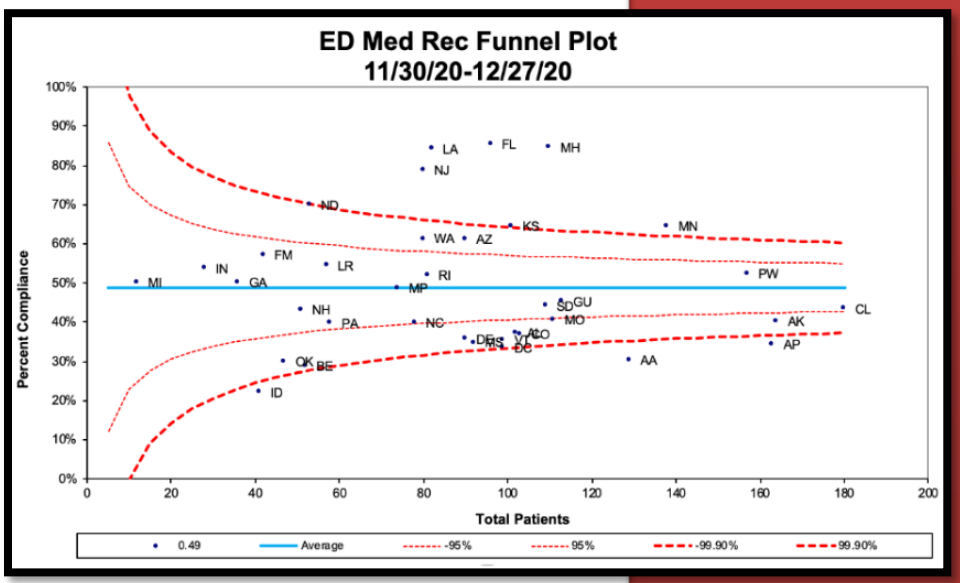
Amy Bryl, MD

In response to new billing requirements for patients that undergo COVID-19 testing during their ED visit, there are 3 new Discharge SmartSets that will display in EPIC for any patient that undergoes a COVID-19 test in the ED. Click on the SmartSet for the applicable scenario and the appropriate diagnosis to include will display and the ".covid19DCinstructions" will auto-populate. Of note, the asymptomatic option is only required to be used for patients whose test is the primary reason for the visit. The symptomatic and exposure diagnoses should always be used when those scenarios apply.



Medical Reconciliation:

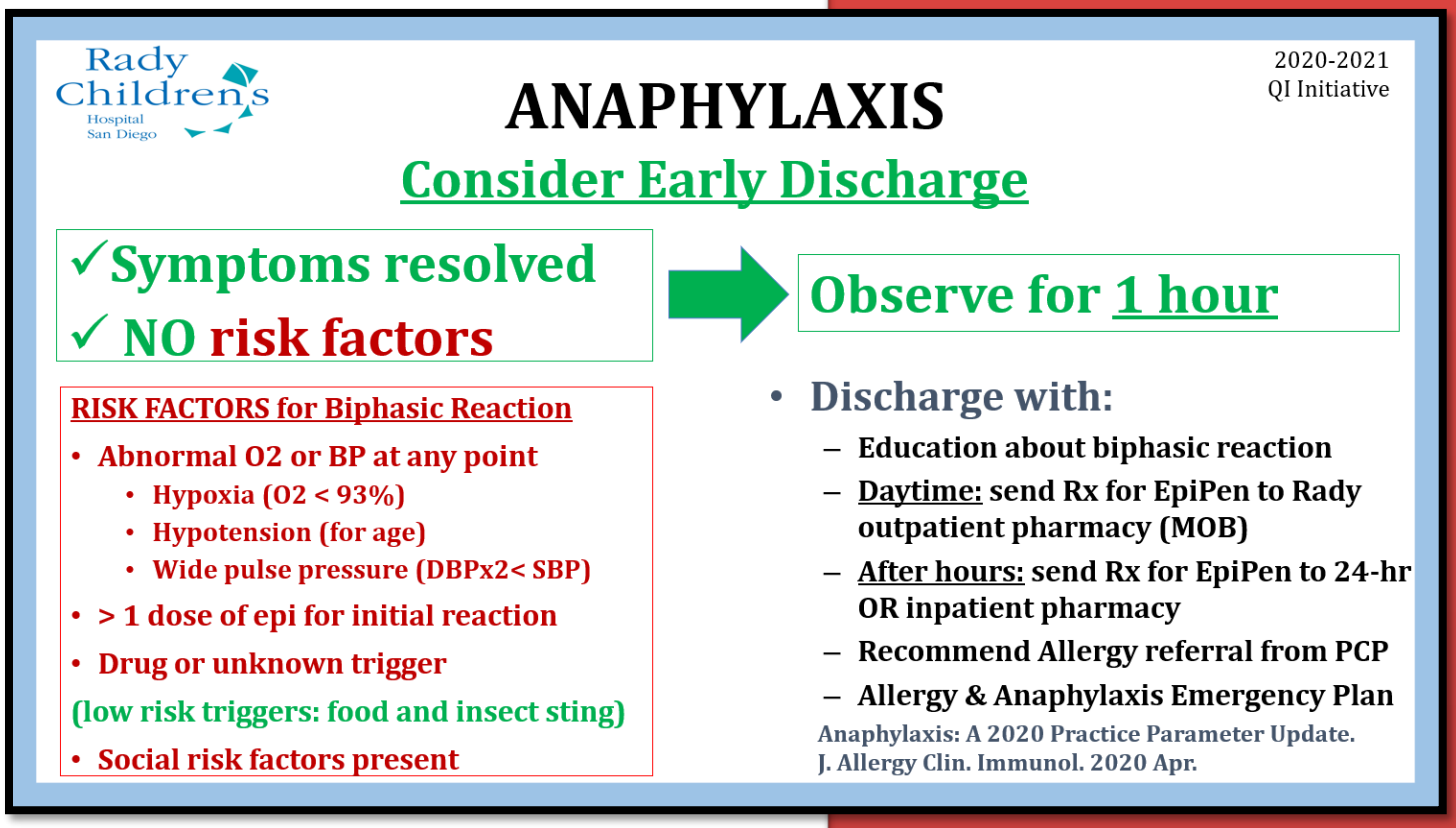
Thanks so much for your hard work in completing medication reconciliation over the past few months. Here is a funnel plot of individual provider compliance for our group in December. The blue line (center line) represents our average compliance of **49%** in December, up from an average of 40% in November. Congratulations to the group on our improvement from last month! The red lines (control limits, similar to confidence intervals) represent the 95% and 99.9% limits of the data. Remember to complete the second tab from the Med Rec link to get credit for completing medication reconciliation.



Low Risk Anaphylaxis Guidelines:

Stephanie Schroter, MD

- **Reminder: our goal:** For ED patients with **low-risk anaphylaxis**, we will decrease the observation time from **an average of 4 hours to an average of 2 hours** after the last epinephrine dose (or from ED arrival if the patient does not receive epinephrine in the ED) by May 31, 2021.
- We now have a banner in Epic that is displaying for patients with possible allergic reactions/anaphylaxis that links to the poster with risk factors associated with high risk for biphasic reactions.



Updates:

- EpiPen for home ordering process
  - Brought to our attention that patients are being charged on ED visit bill for EpiPen dispensed by inpatient pharmacy ($300-400!!!)
  - CHANGE:
    - Daytime: send EpiPen Rx to Rady outpatient pharmacy (MOB) and have parents pick up EpiPen after discharge.
    - After-hours: dispense from inpatient pharmacy OR send to 24-hr pharmacy and reiterate with caregiver importance of picking up on way home.
      - If you feel that family is high risk for not picking up EpiPen please use inpatient pharmacy
- Anaphylaxis Emergency Plan
  - Getting finalized this week and will hopefully be live next week.
  - Will have education about anaphylaxis and biphasic reactions automatically attached.
  - I will send an updated e-mail with screenshots. Please look out for it.
- E-mail with questions, concerns and feedback (sschroter@health.ucsd.edu).

Research Update

Kathy Hollenbach PhD, John Kanegaye MD, Michael Gardiner MD, & Margaret Nguyen MD

Just a Reminder:

- The research team invites division members to submit their abstracts, IRB research plans, and manuscripts for review at pemresearch@rchsd.org. Shortly, we will initiate a RedCap-based system for requesting support with biostatistics, data queries, and RA assistance.
- We are on boarding RAs and should have between 7 and 10 RAs available first week in Feb. Accessing RAs for projects is being streamlined and we will have further info at next month's meeting.

Upcoming 3F Research Lecture Topics:

Presenting at Meetings/ Preparing Abstracts led by the John Kanegaye
Friday, February 19th, 2020 from 0830-1030
Qualitative Research Basics led by Margaret Nguyen
Friday, April 16, 2021 from 0830-0930
Survey Research led by Kathryn Hollenbach
Friday, May 21, 2021 from 0830-0930

Your Study Progress:

We will be updating our list of active and completed studies shortly. Please keep an eye out for an email that will ask you to provide updates on studies we already have on file and to add details of new studies.

Kristy Schwartz and **Margaret Nguyen** had a manuscript accepted by *J Ped Surg*: Spatial-Temporal Clusters of Pediatric Perforated Appendicitis in California

- *We aimed to utilize GIS software to analyze spatial-temporal patterns of pediatric perforated appendicitis in California. We identified 11 hot spots of perforated appendicitis that persisted across a ten-year time span, all of which were in Northern California. Rural micropolitan counties had 14 times higher odds of being classified as a hot spot (p<0.05, 95% CI 1-185) and poverty was a significant predictor of high perforated appendicitis median risk-adjusted rate (p<0.004). For more details on the GIS mapping results, check out this link: https://www.youtube.com/watch?v=2BuLkd_sj6I&feature=youtu.be*

PAS Abstract Submissions for Spring 2021:

Several division members submitted and are hoping to present their abstracts at PAS:

- **Wu**, Saleh, Heitzman, Bryl. *Optimizing lidocaine-epinephrine-tetracaine application and reducing local anesthetic injection for simple facial lacerations in a pediatric emergency department*
- **Bryl**, Heitzman, O'Crump, Santiago, Rawls, Saleh, Shah. *Increasing SARS-CoV-2 Testing in a Pediatric Emergency Department*
- **Abe**, Gardiner, Dory, Gonda, Harvey, Hilfiker, Hollenbach, Kanegaye. Risk factors for delayed surgery after initial non-operative management of pediatric epidural hematomas (EDHs)

Kawasaki Disease:

The KD team thanks the PEM faculty for enrolling patients with MIS-C and KD and febrile controls. The study criteria are updated for MIS-C:

Inclusion Criteria:

- Previously healthy children AND young adults
- Requires blood draw or IV for standard ED care
- One of the following clinical syndromes:

1. Fever ≥3 days (Tm ≥ 38.0 C/100.4 F), plus 1 or more of:
    a. Rash
    b. Red eyes
    c. Red lips or mouth
    d. Red hands or feet, or
    e. Cervical adenopathy
2. OR, need for 2nd tier lab evaluation for MIS-C
3. OR, infants <6 months with fever ≥7 days without source regardless of clinical criteria

If you are an enroller or if another enroller is free in the ED, please consider proposing participation to families when you order 2nd tier MIS-C labs. Otherwise, the KD team would appreciate hearing from you to determine if phone enrollment and consent are feasible.

We recognize PEM faculty with 5 or more enrollments during 2020: Abe, Donofrio, Gardiner, Gutglass, Harley, Nguyen MB, Ulrich, Vayngortin, Zimmerman. Some of this group plus others (Bryl, Ekpenyong) have exceeded a total of 10 and are being included in the group authorship of drafts in process for this year.

Contact John Kanegaye if you are interested in being oriented or want an update during one of your shifts or if you have any clinical or research questions about KD and MIS-C.

Fellowship *Updates* _ *Paul Ishimine, MD and Kathryn Pade, MD*

"I will be stepping down as the fellowship program director on February 1, 2021, and Kathryn will become the new PD. We've been working on this transition for a while, and I'm confident that this change will be a smooth one. I'll be staying on the PEM faculty and will support her in any way I can. I have complete confidence that she'll be an incredible PD, and I'm sure she'll bring the fellowship program to new heights.

I'd like to thank all of the faculty for what you do train our fellows. The bulk of the teaching is done by all of you at the bedside, working side-by-side with fellows, and I know they appreciate you as much as I do. Additionally, I want to thank the division for allowing me to serve as the fellowship program director for the past 12 years. I've had the privilege of supervising the training of 37 fellows over the years, and it's been my highest professional honor to be involved in educating these pediatric emergency physicians." - Paul

Rancho Springs *Updates*

Ashley Metcalf, DO

Rancho Director

- **Heather Conrad** from Jan 14-April 14

Shift times for spring 2021:

- 12-hour shifts to resume with March schedule. 6:00a – 6:30p, 6:00p-6:30a

COVID Considerations:

- COVID testing: No change in capacity – **15** rapid tests/day/institution – tight regulation
- All of Riverside County is at/over surge capacity!
    - Boarding 20-30 COVID patients in the ED daily
        - Highly limited beds to work from – please start all evaluations in the waiting room, ambulance bay or triage
    - Facilitate transfer plans EARLY (can be 6+ hours for BLS/ALS) – utilize CHET when indicated
        - Utilize private auto transfers when appropriate (complete all EMTALA requirements)
        - Do not wait on test results that will not change disposition
- Facilitate flow
    - Use triage spaces wisely: see patient & **send back to the WR** to keep a bed open for MSE
    - Consolidate orders
    - Defer unnecessary ED orders – first dose Abx, antipyretics able to be given at home, etc
    - Consider result callbacks post-discharge when appropriate (strep PCR, etc)
    - Hallway bench is an option for quick procedures, if parent agrees (near 25, requested divider)
    - Bed requested to facilitate procedures, abdominal & GU exams in Decontamination room (near 25) - pending approval/set-up likely Thursday 14th
    - Off-load nursing & tech tasks when able (*education tipsheets sent separately)
        - * discharge your own patients
        - * splint your own patients (splint education book in copy room behind unit secretary)
        - * POC urine tests – attaining sign-off for providers to complete/document results
        - * basic medication access & administration (Tylenol, motrin, EpiPen, LET, Zofran, Benadryl, Lidocaine 1%) – pending approval
        - infant urinary caths (if provider comfortable completing)
- Rady accepting adult admits up </= 30 years age & trauma </=18y
    - Please assist Envision providers as needed

Residency *Updates*

Michele McDaniel, MD and Ashish Shah, MD MEd

"We would like to express our gratitude to everyone for handling the recent instability within the resident schedule. COVID's grasp on the community has started to leak into our trainees and unfortunately, we have had a few require extended time off for illness and are trying to juggle maintaining adequate coverage. We know it is not ideal and appreciate you all taking it in stride. Please feel free to text or email me (Ashish) if any issues come up." Thanks - Ashish and Future Superwoman Michele

Ultrasound Spotlight

Atim Ekpenyong, MD

The Ultrasound Challenge Cup Current standings:

And the winner so far for NOV and Dec together is……(Drum roll)

The GOMEZ family!!!!! Woohoo!!!

Fellow Family	November	December	Total
Gomez	29	34	63
Hazboun	7	18	25
Kramer	31	11	36
Kline	21	22	43
Nichols	8	28	36
Sheth	36	10	46
Tam	4	10	14
Wo	8	13	21

Reminder: What's the prize?

- **$200 for the fellow**
- **$300 for the family group to use for dinner (solid or liquid)**

AND

- **The name of the winning team on the Ultimate Ultrasound Challenge Champions cup (+ bragging rights)**

ULTRASOUND HOUSEKEEPING:

- **PLEASE, PLEASE, PLEASE**, **do not** leave anything on the machine including gel bottles (use the gel packs in the patients' room) or take just the number of gel packs that you think you will need), ultrasound covers, syringes etc.
- **PLEASE, PLEASE, PLEASE**, **wipe** the machine before and after use.

Let's not expose our patients and ourselves!!!

Ultrasound Spotlight

HAPPY NEW YEAR everyone!!! Here's hoping for a day when we can all travel freely and hang out at an outdoor music festival.

This month the ultrasound spotlight is on a fantastic case brought to you, courtesy of **Dr. Matt Murray**.

The patient is a 22-month-old otherwise healthy male born at 36 weeks presenting with difficulty breathing. He became very fussy this morning. He seemed to have difficulty breathing so mother called 911. Mother denied fever, cough, congestion, or rhinorrhea but he endorses that he has been tired with feeds over the past few days. No known sick contacts or COVID-19 exposure. Per paramedics, the patient had O2 saturations of 60% with a good wave form in route and was placed on oxygen via a non- rebreather.

On exam, he was well appearing, interactive, and not in acute distress. Temp 98.8 deg F,BP 97/72, HR 105,RR 40,SpO2 99 % O2 on room air. His lungs were clear to auscultation bilaterally and he had no murmur.

CXR shown below (fig. 1) shows evidence of cardiomegaly. A point-of-care ultrasound (POCUS) exam was performed (fig. 2a and 2b). The POCUS shows an enlarged RV. The RV is also noted to have poor contractility (this cannot be seen on still

images) and the LV looks small. A formal ECHO was obtained, and cardiology consulted. The formal echo read showed a severely dilated, hypertrophied, and hypertensive right ventricle with a tricuspid regurgitation jet gradient of 82 mmHg. The left ventricle was significantly compressed by the right ventricle and the patient had a trivial pericardial effusion. Cardiology was concerned that the RV enlargement may be secondary to pulmonary HTN. The patient was admitted to CVICU for further evaluation and management.

This case comes just in time, following the talk given by Dr Rao on pulmonary HTN. Most times, we focus our attention on the LV when we perform cardiac POCUS but as noted in this case, we need to look at all 4 chambers. In the parasternal long, the probe marker is pointed to the patient's right shoulder (screen indicator on the right side of the screen- cardiology standard) or the patient's left hip with the screen indicator on the left side of the screen. In either case, the RV is the ventricle on the top of the screen, as it is the most anterior chamber in the heart and will be closest to the probe. The left ventricle lies beneath it with the interventricular septum in between both ventricles (fig 2a). The RV/ LV ratio in children (except in the neonate where it might be lower) is about 0.5. If it is equal in size or larger, this represents RV enlargement. Additional findings in patients with pulmonary hypertension or other causes of RV strain include what is known as the D-sign.

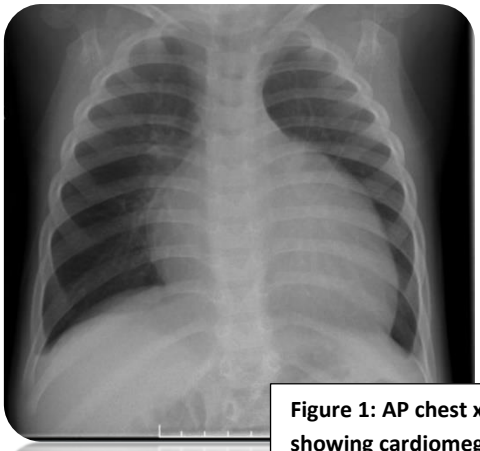
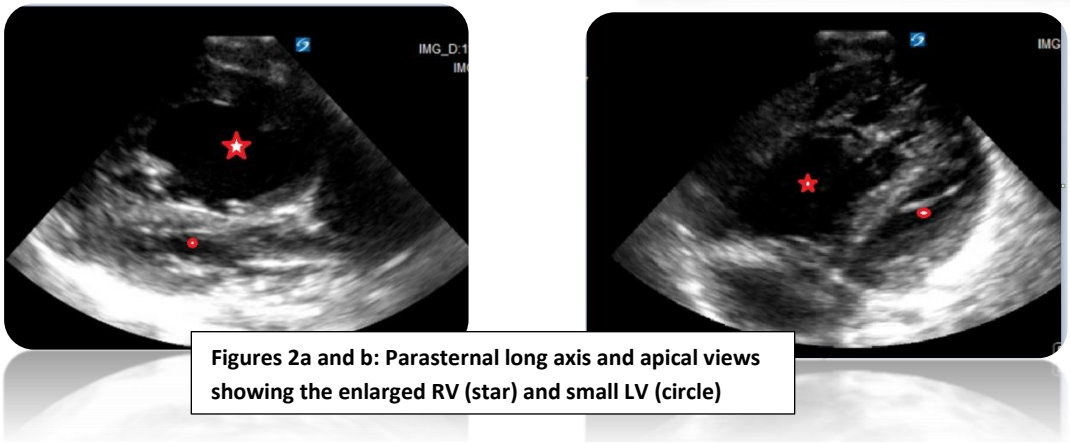


Figure 1: AP chest x-ray showing cardiomegaly



Figures 2a and b: Parasternal long axis and apical views showing the enlarged RV (star) and small LV (circle)

This finding is seen in the parasternal short view when the LV takes on the shape of the letter "D". In cases of right heart strain from PHTN or other causes, the pressures in the RV are elevated which causes the interventricular septum to flatten out appearing like a "D" (fig 3). In the normal parasternal short axix view the LV looks like a doughnut and the RV looks like a crescent.

The patient was started on Milrinone for RV support then weaned off. Started on Bosentan, Sildenafil and Remodulin for pulmonary hypertension therapy. He was then transferred to Lucile Packard Children's Hospital at Stanford for surgical repair of his severe peripheral branch pulmonary artery stenosis (diagnosed on cardiac cath.)

This case highlights how POCUS can be used to direct care in patients presenting in respiratory distress.

Happy scanning!!!

References:

1. Jone PN, Hinzman J, Wagner BD, Ivy DD, Younoszai A. Right ventricular to left ventricular diameter ratio at end-systole in evaluating outcomes in children with pulmonary hypertension. J Am Soc Echocardiogr. 2014 Feb;27(2):172-8.
2. Howard, Luke S., et al. "Echocardiographic assessment of pulmonary hypertension: standard operating procedure." *European Respiratory Review* 21.125 (2012): 239-248.
3. ACEP // Tips & Tricks: Right Heart Strain: rapid evaluation in the acutely dyspneic patient

Updates

Scott Herskovitz, MD & Tanya Vayngortin, MD

Events:

Since most of us have been vaccinated, we may be able to revisit possible outdoor wellness events such as hiking or beach bonfires soon depending on state and local public health guidelines (we'll just call Seema).

Get to know your fellow faculty members!

Yan Zhan

Background:

- Graduated fellowship, moved between 3 states within 3 months, and bought my first house!

Personal Achievements:

- Met 2020 NBA MVP Giannis Antetokounmpo while rotating in the CHW PICU

Professional Achievements:

- Poster presentation on cephalosporin allergy accepted at PAS

Ashish Shah

Personal Achievements:

- Met Successfully moved 2 people from 2 places to San Diego
- Taught myself 3D computer modeling

Professional Achievements:

- Became gainfully employed!
- Winning the Willis Wingert Award for Outstanding Abstract Presentation at the AAP