



Enhance IPE Through Technologies and Real-world Practices

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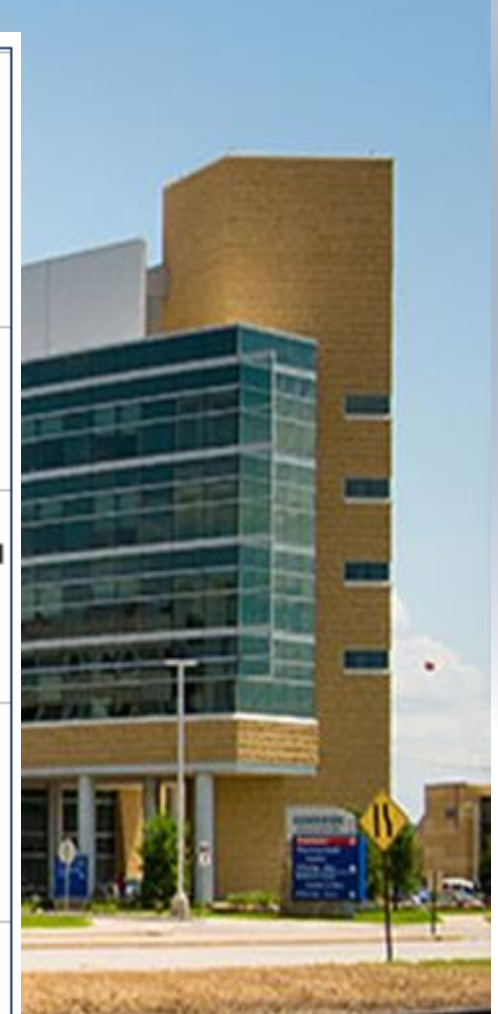
Disclosures

- This project is funded through a Health Resources and Services Administration (HRSA) Primary Care Training and Enhancement grant
 - Award No: 1 TOBHP29996-01-00
 - Project Period: 7/1/16 - 6/30/21
 - Project Title: Gundersen THEME (Transforming Healthcare by Enhancing Medical Education)
- The presenters have no financial disclosures.

Learning Objectives

- Describe the incorporation of ultrasound and electronic health record technology to enhance the fidelity of simulation activities and improve satisfaction of participants
- Utilize principles of TeamSTEPPS to improve communication between members of an interprofessional medical team to improve patient outcomes
- Identify inherent challenges and apply potential resolutions to the integration of ultrasound and electronic health record into interprofessional education (IPE)

Lay of the Land Who We Are



GUNDERSSEN
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Who We Are Graduate and Post- Graduate Medical Education

- Residencies
 - **Family Medicine**
 - General Surgery
 - **Internal Medicine**
 - Optometry
 - Oral & Maxillofacial Surgery
 - **Pharmacy**
 - Podiatric Medicine & Surgery
 - Sports Physical Therapy
 - Transitional
 - **Nursing**
- Fellowships
 - GI/Bariatric Surgery
 - Emergency Medicine PA
 - Hematology/Oncology
 - Psychology Post-Doc
- **Quad-partnership PA Program**
 - UW-La Crosse
 - Gundersen Health System
 - Mayo Clinic Health System
 - Marshfield Health System

Gaps/Drivers

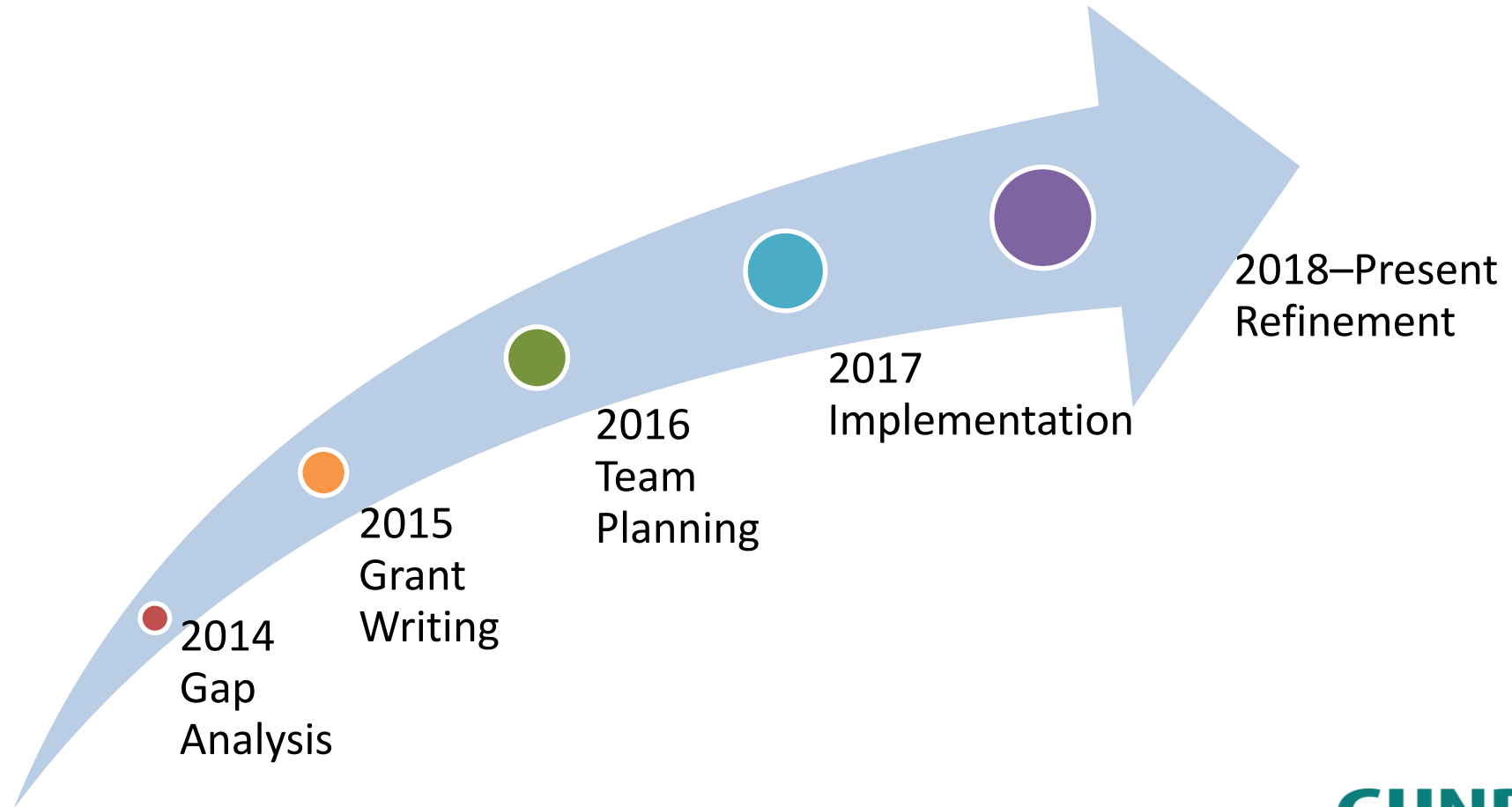
Primary

- Integration of team concepts
 - TeamSTEPPS 2.0; Crew Resource Management (CRM)
- Lack of IPE amongst medical learners

Secondary

- Point of care US (POCUS)
- Emphasis on rural practice
- Underutilized simulation center by GME

THEME Project Timeline



Basics of IPE

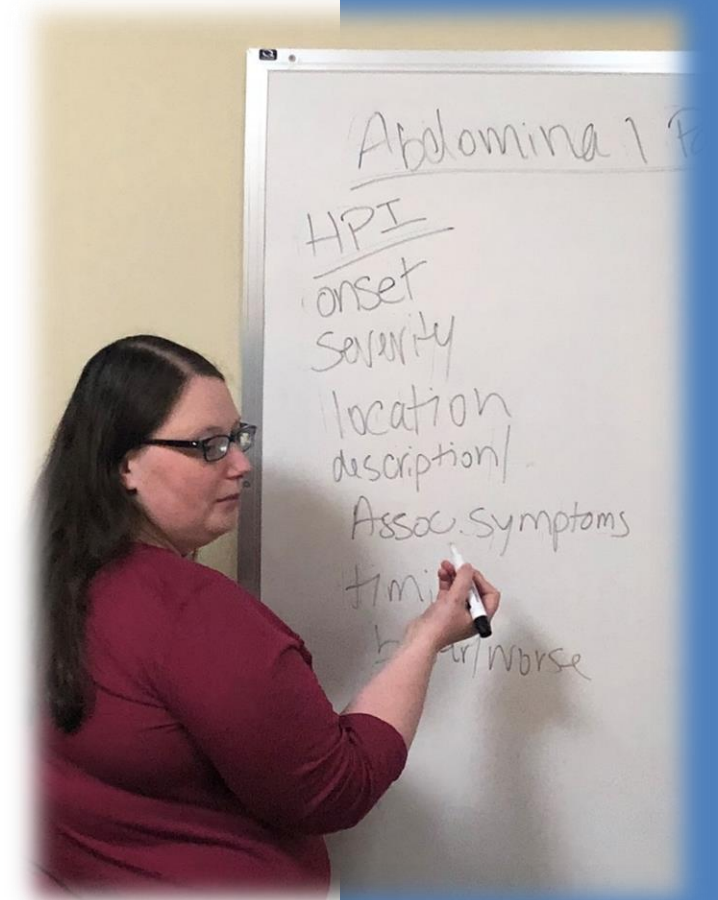
- Focus on the clinical year application & practice
 - Intentionality of pursuing other disciplines at the start
 - Receptive to inviting or including other disciplines and levels of learning to augment the learning experiences
 - Deliberately try to construct roles & pieces for each discipline into the curriculum/scenarios

Our Team

- Gundersen
 - Family Medicine Residency Program
 - Internal Medicine Residency Program
 - Pharmacy Residency Program
 - Quality Improvement
 - Behavioral Medicine
 - Integrated Center for Education
 - Nursing (added in 2020)
- UW – La Crosse PA Program
- Medical and pharmacy students from affiliated universities completing clinical experiential training at Gundersen

IPE Pedagogy

- Use of TeamSTEPPS 2.0 content
- Integration of ACGME's Pursuing Excellent Initiative (PEI) content
- Other trainers/evaluators present to augment the core faculty & evaluate medical learner interactions
- Utilizing medical residents as the trainers & team leaders for the sessions



IPE Concepts

- Encourage group dynamics (e.g. “phone a friend”)
- Role modeling
- All learner levels experience varied roles on the team (lead, assist, recorder)
- Focus on debriefing as a team

Case Design

- No need to re-invent the wheel for case design
 - Collaboration with UNC-Charlotte
 - Team STEPPS
 - CRM
- Pre- and post-readings
 - Contemporary readings, videos

Case Development

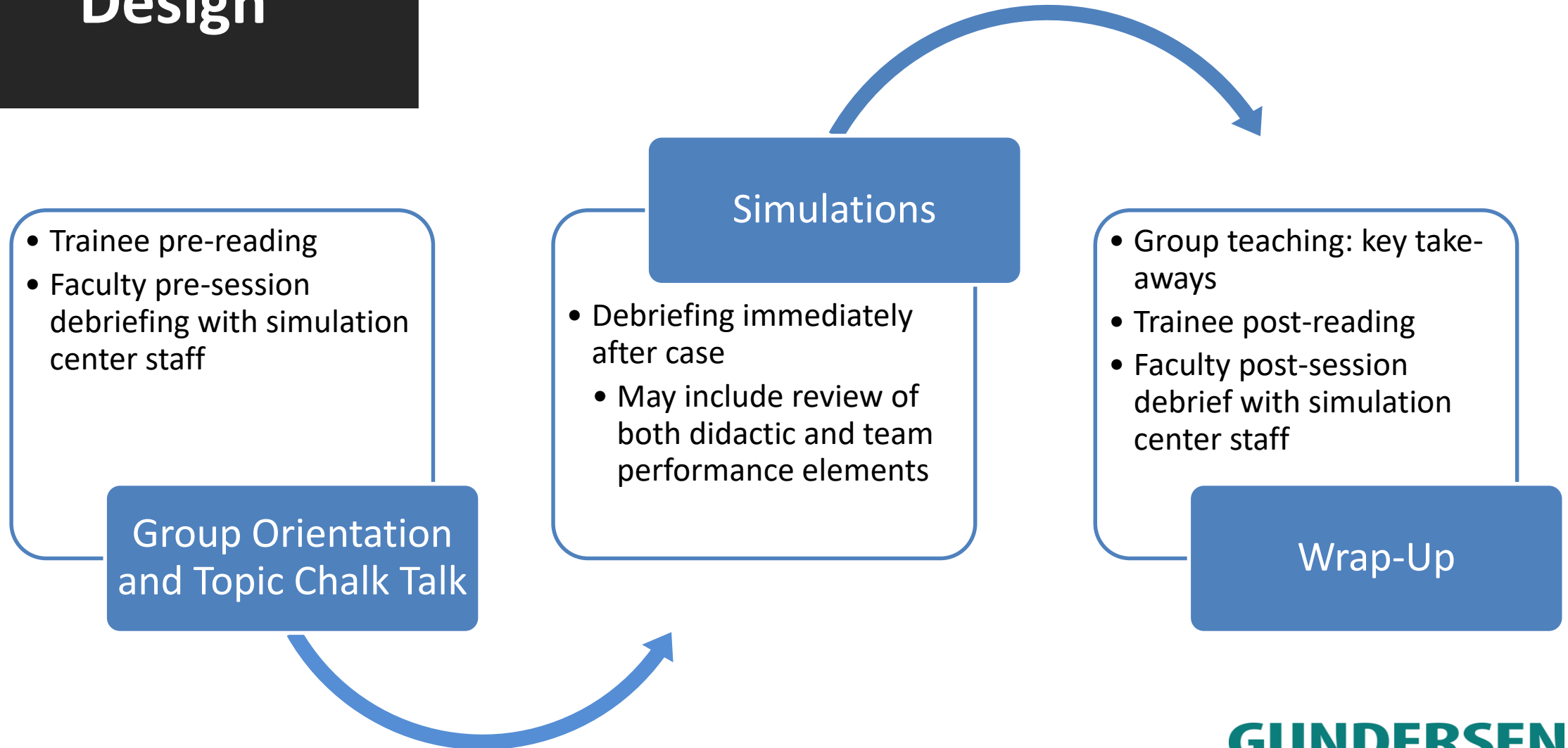
- Varying levels of acuity
- Location of encounter to vary
- Opportunities to practice fundamentals
- Opportunities to demonstrate utilization of team skills
- Inclusion of social determinants of health (SDH)
- IMPORTANT – allowance for failure and/or experience errors!

Curriculum

1. Orientation & team dynamics (Team STEPPS, CRM)
2. ACLS Lite (PEA, SVT, Bradycardia, V Fib)
3. Others – can be in any sequence
 - **Abdominal Pain** (acute cholangitis, ectopic pregnancy, perforated PUD, mesenteric ischemia)
 - **Chest Pain** (STEMI, pericarditis, panic, acute chest syndrome)
 - **Dyspnea** (asthma exac, anemia, PE, PPH)
 - **Fever & Sepsis** (malignant hyperthermia, meningitis, urosepsis, serotonin syndrome)
 - **Shock & Anaphylaxis** (tension pneumo, hypovolemic-GI bleed, ACS)
 - **Stroke/mimic** (hemorrhagic, ischemic, hypoglycemia, TIA)



Session Design



Organization of the Day



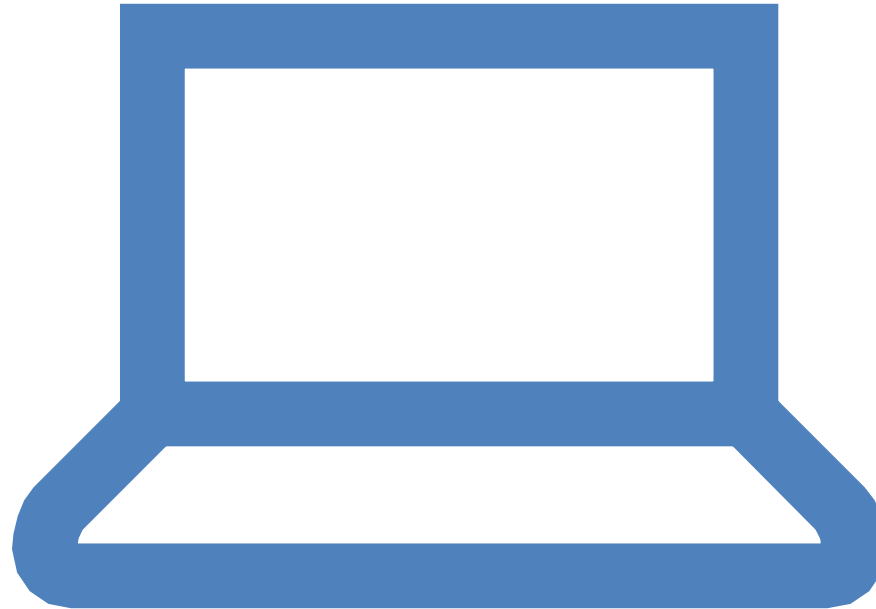
	I-Stan, Mock OR	Noel or SP, Mock ER
Session 1	Team A	Team B
Session 2	Team B	Team A
Session 3	Team A	Team B
Session 4	Team B	Team A

Increasing the fidelity of the scenario

- Intro lab session
- Dispelling disbelief
- Standardized patients (SPs)
- Electronic medical record (EMR)
- POCUS



EMR Integration



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Date: 10/2019



Enter ED Track Board

ED Track Board (SIM Lab ED)

Refresh
 Discharge
 Tx Team
 Open Chart
 Sign In
 Comments
 Message Log
 Legend ▾
 Track Board Default

My Patients (0)
 All Patients (152)

	Bed	Patient	Complaint	A	TT	RN
	N..	Cabernet, Alice (72 y.o. F)	Abdominal Pain; Altered mental status	3	05:07	FRAN A
	N..	Cabernet, Alison (19 y.o. F)	Overdose, Intentional; Opioid	2	03:48	DEB G
	N..	Cabernet, Alyssa (19 y.o. F)	Fever; Altered mental status	2	04:14	FRAN A
	N..	Cabernet, Arthur (68 y.o. M)	Headache; Palpitations; Weakness	2	05:03	DEB G
	N..	Cabernet, Barry (55 y.o. M)	ACLS; Palpitations; Breathing Problem	2	05:32	FRAN A
	N..	Cabernet, Bertram (86 y.o. M)	Fever; Altered mental status	3	05:47	FRAN A
	N..	Cabernet, Esme (63 y.o. F)	Vomiting Blood; Low Blood Pressure	2	340:36	FRAN A
	N..	Cabernet, Georgia (36 y.o. F)	Chest Pressure	3	04:42	DEB G
	N..	Cabernet, James (22 y.o. M)	Substance Abuse; Aggressive behavior	2	05:20	FRAN A
	N..	Cabernet, Jenny (30 y.o. F)	Chest Pressure	3	05:24	FRAN A
	N..	Cabernet, Jimmy (68 y.o. M)	Low Blood Pressure	3	340:42	FRAN A
	N..	Cabernet, John (55 y.o. M)	Shortness of Breath	5	05:11	FRAN A
	N..	Cabernet, Keegan (40 y.o. M)	Headache; Malaise; Vomiting; Weakn...	4	04:30	MONTANA N

Cabernet, Alice

EXAM

SIMMS C.

Search

Summary

Chart Review

Triage

Workup

Manage Orders

Flowsheets

Synopsis

Results

Problems

History

Notes

Dispo

ACP Summary

My Note

Alice Cabernet

Female, 72 y.o., 10/31/1947

MRN: <E7820>

3 NONE

Total Time: 05:04

Code: Not on file (no ACP docs)

PoAHC: Not On File

Active FYIs: None

Search

No assigned Attending

ALLERGIES

Dye (Gadolinium Based)
[Gadoteridol]

Act Weight: 85 kg (187 lb 6.3 oz)

Est Weight: None

PCP: None

CHIEF COMPLAINT

Abdominal Pain, Altered mental status

BP 110/60 Temp 39.2 °C Pulse —

Resp Rate 30 O2 Sat (%) 96%

DAILY Weight —

NEW RESULTS

No new results

MED STATUS

None

Scroll to see all data

1st Provider Contact

✓ First Provider Contact Time Filed 11/04/2019 0732

Triage Summary

Triage Note

0645 Report from nurse in assisted living is that "Alice comes to all meals and events at Shady Pines. She is normally very active, but I noticed she hasn't been eating much lately. We've had a little bug going around and we just thought that was it. Alice seems unusually sleepy, and just not herself." So they called EMS

Arrival Info

Time	Acuity	Means of Arrival	Escorted by	Service
10/31 0639	3	Tri State Ambulance...	Self	Emergency Services

Complaints

Abdominal Pain	Found in her room by nurse at assisted living with abdominal pain and confusion.
Altered mental status	confusion

Complaint Details

Allergies

✓

Dye (Gadolinium Based) [gadoteridol] Hives, Other

Last reviewed by Fran Airbrush, RN on 10/31/19 0642: Mark as Reviewed

Home Medications

✓

Vitals

Historical Data

BP	Pulse	Heart Rate (monitor)	Temp	Resp Rate	O2 Sat (%)
0640 110/60	—	—	39.2 °C (102.6 °F)	30	96 %

Problem List

✓

Non-Hospital

Type 2 diabetes mellitus without complication, wit...

Dyslipidemia (*)

Essential hypertension (*)

Osteoarthritis of right knee

Last reviewed by Diana McQueenie, MD on 04/19/19 1142

History

✓

Medical

(Never reviewed)

Type 2 diabetes mellitus without... Dyslipidemia (*) Essential hypertension (*)

Osteoarthritis of right knee

Surgical

(Never reviewed)

Not on file

Family

(Last reviewed by Diana McQueenie, MD on 04/19/19 1137)

First Degree Relative Medical History

Stroke | Diabetes | Elevated Lipids | Other

Treatment Team



Open System List for Inpatients

Patient Lists

Edit List Open Chart Sign In Sign Out Add Patient Remove Patient Wrap Text Write Handoff

My Lists

SIM

☆ Sim Lab IP 24 Patients

Refreshed just now Search Current Locat...

Room/Bed ▲	Patient Name	MRN	Age/Gender	Attending	Principal Problem	Code Status	Isolation/Info	Expected D/C Date	Patient Class	Intermediate Care Patient	RN Extension	Central Line
SIM Lab IP Pool Room/NONE	Grenache, Perry	000000073056	23 y.o. / M	Jim Urgent, MD	Diabetic ketoacidosis associated with...	None	—	—	Inpatient	—	—	—
SIM Lab IP Pool Room/NONE	Chardonnay, Sybil	000000073155	66 y.o. / F	Walt Whitecoat, MD	Chest pain (More)	None	—	—	Inpatient	—	—	—
SIM Lab IP Pool Room/NONE	Merlot, Perry	000000073379	23 y.o. / M	Jim Urgent, MD	Diabetic ketoacidosis associated with...	None	—	—	Inpatient	—	—	—
SIM Lab IP Pool Room/NONE	Grenache, Sybil	000000073494	66 y.o. / F	Walt Whitecoat, MD	Chest pain (More)	None	—	—	Inpatient	—	—	—
SIM Lab IP Pool Room/NONE	Pinot Noir, Perry	000000073650	23 y.o. / M	Jim Urgent, MD	Diabetic ketoacidosis associated with...	None	—	—	Inpatient	—	—	—
SIM Lab IP Pool Room/NONE	Merlot, Sybil	000000073684	66 y.o. / F	Walt Whitecoat, MD	Chest pain (More)	None	—	—	Inpatient	—	—	—
SIM Lab IP Pool Room/NONE	Sauvignon Blanc, Perry	000000073759	23 y.o. / M	Jim Urgent, MD	Diabetic ketoacidosis associated with...	None	—	—	Inpatient	—	—	—
SIM Lab IP Pool Room/NONE	Pinot Noir, Sybil	000000073767	66 y.o. / F	Walt Whitecoat, MD	Chest pain (More)	None	—	—	Inpatient	—	—	—

Available Lists

System Lists

Units

- Cardio Pulmonary (x53...
- Critical Care (x53130) ...
- General Medical (x568...
- Heritage Unit (x53750) ...
- Labor & Delivery (x53...
- Medical and Oncology ...
- Medical Specialty (x59...
- Neonatal ICU (x53375...
- Neurosciences (x5327...
- Nursery HM5850-5863...
- Obstetrics (x53375) H...
- Orthopaedics (x53273)...
- Pediatric ICU (x53375)...
- Pediatrics (x53375) H...
- Rehab (x53261) HM37...
- Sim Lab IP**
- Surgical and Digestive ...

ARCC

BH Groups





Perry Merlot

Male, 23 y.o., 7/6/1996

MRN: 000000073379

Bed: NONE

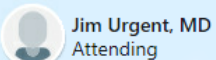
Cur Location: HM1744

Code: Not on file (no ACP docs)

PoAHC: Not On File

Active FYIs: None

Search



Jim Urgent, MD
Attending

ALLERGIES

No Known Drug Allergies

Act Weight: 70 kg (154 lb 5.2 oz)

Est Weight: None

PCP: McQueenie, Diana

CHIEF COMPLAINT

ACLS (+2)

BP Temp Pulse
147/82 37.2 °C —

Resp Rate O2 Sat (%)
22 97%

DAILY Weight
70 kg
(154 lb 5.2 oz)
>7 days

NEW RESULTS

No new results

MED STATUS

None

DISPOSITION

No Disposition Selected

SnapShot

← ↻ 🔍 SnapShot SIM Lab ED Results SIM Lab IP Results Pt Care Timeline ENCOUNTER SUMMARY Orders

SnapShot 🔍

Currently Admitted (since 10/30/2019)

Demographics

Perry Merlot
23 year old male
7/6/1996

Chief Complaint

ACLS (chest pain)
Cough
OTHER (abdominal pain)

Problem List

Hospital

Diabetic ketoacidosis associated with type 1 diabetes mellitus (*) triggered by pneumonia and noncompliance with insulin

Hyponatremia

AKI (acute kidney injury) (*)

Non-Hospital

Type 1 diabetes mellitus without complication (*)

✓ Mark as Reviewed Reviewed by MD on 2/2/2019

Tobacco History

Smoking Status Never Smoker
Smokeless Tobacco Status Never Used

✓ Mark as Reviewed Reviewed by MD on 2/2/2019

Medical History

3/27/2018 Type 1 diabetes mellitus without complication (*)

✓ Mark as Reviewed Reviewed by MD on 2/2/2019

Last 3yr

Oct 30



This Visit: ED to Hosp-Admission (Current) with IM - Urgent, J
Diabetic ketoacidosis associated with type 1 diabetes mellitus (*)

Feb 02



Office Visit with IM - McQueenie, D
Type 1 diabetes mellitus without complication (*) (Primary Dx)

Allergies

No Known Drug Allergies

✓ Mark as Reviewed Reviewed by RN on 10/30/2019

Medications (Admitted on 10/30/2019)

Hospital Medications

None

Outpatient Medications

insulin aspart (NOVOLOG) 100 unit/mL cartridge
insulin glargine (LANTUS) 100 unit/mL injection

✓ Mark as Reviewed Reviewed by RN on 10/30/2019

Immunizations/Injections

None

Health Maintenance

- 07/06/2007 DTaP/Tdap/Td (1 - Tdap)
- 07/06/2014 DEPRESSION/ANXIETY PHQ4
- 07/06/2014 WELLNESS VISIT
- 07/06/2014 LIPID SCREEN
- 07/06/2015 PERTUSSIS
- 08/01/2019 INFLUENZA
- 02/02/2020 DIABETES SCREENING

Merlot, Perry



SnapShot

Summary

Chart Review

Synopsis

Results

Review Flowsheets

Problems

History

Notes

Demographics

Medications

Allergies

Chart Review



Notes

Encounter

Lab

Cardio

Micro

Path/Cyt

Meds

Imaging

Letters

Media

Episodes

Other Orders

Procedures

☐ Preview

Refresh (10:51 AM)

Select All

Deselect All

Review Selected

Route

Tag

Load Remaining

Add to Bookmarks

Filters

☒ Default Filter☐ Me☐ Emergency Medicine☐ SIM LAB ED☐ Inpt☐ Amb

	Date of Service	Author		Encounter Type	Encounter Date	Note Id	Note Ty
Recent Visits							
	Yesterday at 19:47	Whitecoat, Walt, MD - Physicia...		ED to Hosp-Admissi...	Yesterday	228659	H&P
	Yesterday at 17:03	Urgent, Jim, MD - Physician		ED to Hosp-Admissi...	Yesterday	228658	ED Pro
6 Months Ago							
	02/02/2019 13:15	McQueenie, Diana, MD - Physi...		Office Visit	02/02/2019	228657	Progres

Date of Service	Author	Encounter Type
Recent Visits		
Yesterday at 19:47	Whitecoat, Walt, MD -...	ED to Hosp-Admissi...
Yesterday at 17:03	Urgent, Jim, MD - Ph...	ED to Hosp-Admissi...
6 Months Ago		
02/02/2019 13:15	McQueenie, Diana, M...	Office Visit

Diana McQueenie, MD

Physician

INTERNAL MEDICINE

Progress Notes

Addendum

Encounter Date: 2/2/2019

[Expand All](#) [Collapse All](#)

☐ Hide copied text

☐ Hover for details

Chief Complaint

Patient presents with

- Establish Care

History of Present Illness:

22 yo male patient is here today to establish care. He transferred to school at Viterbo, now he is here because he has type 1 diabetes and needs to establish care with someone local. He has had diabetes since he was 11. He has been hospitalized 3 times for his diabetes with DKA. He has been on a combination of Lantus 20 and a sliding scale of insulin since starting college. This is going well. He admits he occasionally misses checking his Blood sugar, but overall has been doing well. Otherwise is healthy. Blood sugars usually in the 100-120 range. Last hemoglobin A1C was 6.2 reported.

Active Medications

Patient Active Problem List

Diagnosis

- Type 1 diabetes mellitus without complication (*)

Family History

Relation	Problem	Comments
Father (Alive)	Hypertension Obesity	
Mother (Alive)	No Major Problems	

Date of Service	Author	Encounter Type
Recent Visits		
Yesterday at 19:47	Whitecoat, Walt, MD -...	ED to Hosp-Admissi...
Yesterday at 17:03	Urgent, Jim, MD - Ph...	ED to Hosp-Admissi...
6 Months Ago		
02/02/2019 13:15	McQueenie, Diana, M...	Office Visit

Jim Urgent, MD ED Provider Note Date of Service: 10/30/19 1703
 Physician Addendum
 EMERGENCY MEDICINE

SIM LAB

Encounter Diagnosis

The primary encounter diagnosis was Diabetic ketoacidosis without coma associated with type 1 diabetes mellitus triggered by pneumonia and noncompliance with insulin (*). A diagnosis of Pneumonia of right lower lobe due to Streptococcus pneumoniae (*) was also pertinent to this visit.

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☐ Hover for details

ED/UC Department Course

A 12-lead EKG shows nonspecific t wave changes and sinus tachycardia with no ectopy. Chest radiograph shows a right lower lobe consolidation and his troponin is borderline. BP and symptoms improved with fluid bolus and insulin. Started on Rocephin and Azithromycin in ED. Blood cultures and Influenza swab obtained.

Physician Follow-up Appointment/Instructions/Discharge Medication Summary

No follow up.

History of Present Illness

The history is provided by the patient.
 22 yo male with hx of type 1 DM. It started when they went to buffalo wild wings for lunch. Patient started feeling exceptionally bad and the Paramedics were called out to the patient's house for nausea and shortness of breath. He admitted he Forgot to take some of his insulin. He is feeling better after 2 liters of NS and the initiation of insulin drip. Patient is admitted to the ICU to internal medicine

Current Outpatient and Patient Reported Medications

Reviewed by Fran Airbrush, RN on

Med List Status: Med History
Complete ED/UC RN

Medication	Sig
insulin aspart (NOVOLOG) 100 unit/mL cartridge	Inject under skin See Admin Instructions Take 3-4 times a day per sliding scale .
insulin glargine (LANTUS) 100 unit/mL injection	Inject 20 Units under skin every evening.

H & P

ADMISSION HISTORY & PHYSICAL

ADMISSION LOCATION: GUNDERSEN HEALTH SYSTEM

☐ Hide copied text

☐ Hover for details

CHIEF COMPLAINT: dyspnea and mild abdominal pain

HISTORY OF PRESENT ILLNESS:

Patient is a 22 yo male with known hx of type 1 DM. He presented to the ED today with It started when they went to buffalo wild wings for lunch. Patient started feeling exceptionally bad and the Paramedics were called out to the patient's house for nausea and shortness of breath. He admits that he Forgot to take some of his insulin for last several days. He normally is quite careful about taking his insulin, but states he has been very stressed with college. He was found to be acidotic and hyperglycemic in the ED and treated with fluids and insulin drip. He is feeling better after 2 liters of NS and the initiation of insulin drip.

At present time, patient says he still feels weak but no pressing concerns. Continues to have a little abdominal pain but no nausea, vomiting or diarrhea. HDS on room air.

Add'l Diagnoses:

Diabetic ketoacidosis without coma associated with type 1 diabetes mellitus (*)
Hypovolemic hyponatremia

BLOOD CULTURE RESULT PENDING

BUN

Result Value

BUN (6-24) MG/DL: 35

Influenza A&B

Result Value Ref Range

INFLUENZA A AB, IGG RESULT PENDING

INFLUENZA B AB, IGG RESULT PENDING

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☐ Hover for details

ASSESSMENT & PLAN:

Active Hospital Problems

Diagnosis	POA
• Diabetic ketoacidosis associated with type 1 diabetes mellitus (*) triggered by pneumonia and noncompliance with insulin	Yes
• Hyponatremia	Yes
• AKI (acute kidney injury) (*)	Yes

Patient is a 22 year old male with known Type 1 DM, now with DKA and AKI due to hypovolemia and hypovolemic hyponatremia

T1DM with DKA triggered by pneumonia and noncompliance with insulin:

suspect from poor compliance with insulin intake and development of pneumonia. EKG shows only nonspecific changes, and with no chest pain, doubt MI, more likely related to the DKA.

* Continue to monitor symptoms/abdominal exam.

* Insulin gtt per DKA protocol

* Follow lytes q4, will await for gap to close before starting lantus

* IVF as below

* continue ceftriaxone and azythromycin

* DM educator consult

Hyponatremia: likely related to hypovolemia, monitor sodium levels with NS at 250cc/hour

AKI: pre-renal from dehydration

* IVF as above

* Recheck Cr in AM

Prophylaxis: lovenox

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Chart Review

[Notes](#)
[Encounter](#)
[Lab](#)
[Cardio](#)
[Micro](#)
[Path/Cyt](#)
[Meds](#)
[Imaging](#)
[Letters](#)
[Media](#)
[Episodes](#)
[Other Orders](#)
[Procedures](#)
[Referrals](#)
[LDAs](#)
[Misc Reports](#)

☐ Preview

☒ Hide Canc
 ☒ Hide Printed Lab
 ☐ Final Result

Collect Date	Lab Test	Status	Autho Provider	Encounter Type	Order Class	Order Date	Enc Special
Unknown Date							
	UA (aka Urinalysis)	Final result	Jim Urgent, MD	Hospital Enc...	Unit Collect	10/30/2019	
	GLUCOSE	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	Creatinine	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	ELECTROLYTES (aka Lytes)	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	CBC W/DIFF	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	PT (ak INR)	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	Influenza A&B	Final result	Jim Urgent, MD	Hospital Enc...	Unit Collect	10/30/2019	
	BUN	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	Blood Culture X 1	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	LACTATE	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	ABG (aka Blood Gas - Arterial)	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	TROP (aka Troponin T)	Final result	Jim Urgent, MD	Hospital Enc...	Lab Collect	10/30/2019	
	UDS (aka Urine Drug Screen)	Final result	Jim Urgent, MD	Hospital Enc...	Unit Collect	10/30/2019	

Encounter Lab Cardio Micro Path/Cyt Meds **Imaging** Letters Media Episodes Other Orders Procedures Referrals LDAs Misc Reports

Refresh (11:00 AM) Select All Deselect All Review Selected Route Add to Bookmarks

☒ Canceled Orders ☐ XRay ☐ US ☐ MR ☐ Mammo ☐ Fluoroscopy ☐ CT ☐ Final Result

Site	Exam	Laterality	Exam Type	Authorized
	XR CHEST AP OR PA		XRAY ORDERABLES	Jim Urgent

CXR (aka XR Chest 1 View (AP or PA)) (O 327661)

Status: Final result (Resulted: 10/30/2019 17:00)

CXR (aka XR Chest 1 View (AP or PA))

Status: Final result

Visible to patient: No (Not Released)

Next appt: None

Last Resulted:
10/30/19 17:00

[Order Details View En](#)
[Collection Details Routin](#)

Linked Documents

[Click Here for Image](#)

CXR (aka XR Chest 1 View (AP or PA)) Study

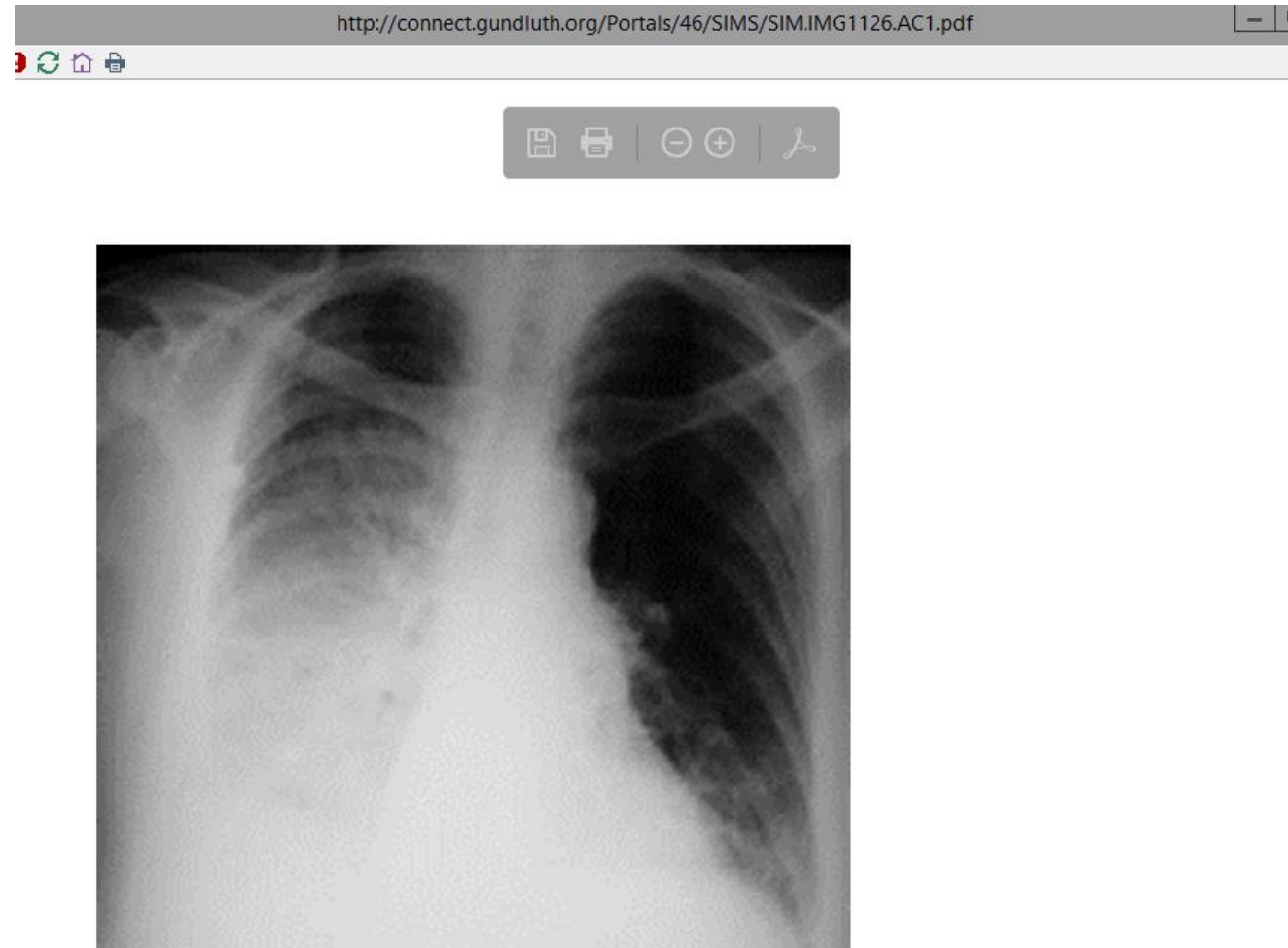
Perry Merlot

23 y.o.

Ordering Provider

Jim Urgent, MD

CXR



Same work
flow for ECG

Chart Review

Notes Encounter Lab **Cardio** Micro Path/Cyt Meds Imaging Letters Media Episodes Other Orders Procedures Referrals

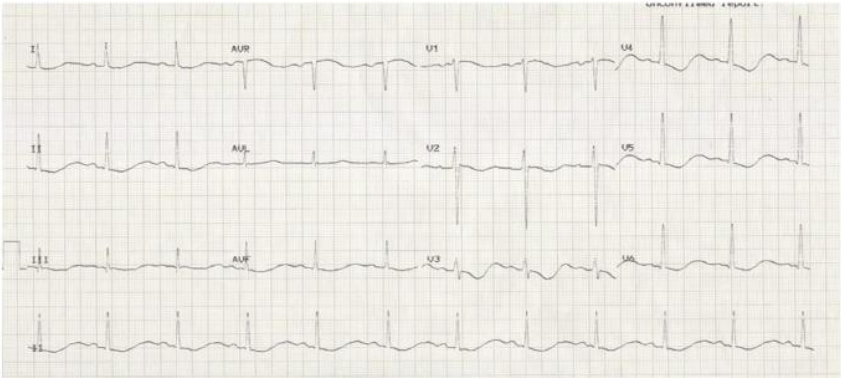
☒ Preview ☒ Refresh (10:59 AM) ☒ Select All ☐ Deselect All ☐ Review Selected ☐ Route ☐ Add to Bookmarks

Filters ☒ Hide Canceled ☐ ECG ☐ TTE ☐ GXT ☐ Pacemaker Clinic ☐ 6MWT ☐ Rehab

Order Date	Date Performed	Description	Result Status	Auth Provider	Enc Specialt
Recent					
Yesterday		EKG 12-LEAD	Final result	Jim Urgent, MD	

<http://connect.gundluth.org/Portals/46/SIMS/SIM.EKG1.AC1.pdf>

Download Print Zoom In Zoom Out Link



Search:
☐ Hide data prior to: 2/2/2019

[Use Date Range Wizard](#)

[Newest First](#)

[Oldest First](#)

ALL TOPICS

- Results
 - LABORATORY RESULTS
 - BLOOD GASES
 - CHEMISTRY
 - COAGULATION
 - HEMATOLOGY
 - IMMUNOLOGIC ASSAYS
 - MICROBIOLOGY
 - OTHERS
 - URINE ALBUMIN CONC.
 - XR CHEST AP OR PA

GROUP	COMPONENT	DATA	DATE/TIME
ARTERIAL BLOOD GAS	PH	(7.35-7.45): 7.15	10/30/2019 1700
	PO2	(78-82) MMHG: 65	10/30/2019 1700
ARTERIAL CORD GAS BLOOD	PCO2	(35-45) MMHG: 20	10/30/2019 1700
CARDIAC	TROPONIN T	(0.00 - 0.07) N...	10/30/2019 1700
MISC CHEMISTRY	HEMOGLOBIN A1C	6.3 !	2/2/2019
GENERAL RENAL / METABOLIC	SODIUM	(135-145) MEQ/L...	10/30/2019 1700
	POTASSIUM	(3.6-5.1) MEQ/L...	10/30/2019 1700
	CHLORIDE	(96-106) MEQ/L...	10/30/2019 1700
	CARBON DIOXIDE-TOTAL	(20-30) MEQ/L: 10	10/30/2019 1700
	LACTATE	(0.5 - 2.2): 3	10/30/2019 1700
	LACTATE	(0.5 - 2.2): 3.0	10/30/2019 1700
	BUN	(6-24) MG/DL: 35	10/30/2019 1700
	CREATININE	(0.4-1.3) MG/DL...	10/30/2019 1700
	GLUCOSE	(67-109) MG/D: ...	10/30/2019 1700
GENERAL COAGULATION / SCREENING	INR	(0.8 - 1.1): 1.0	10/30/2019 1700
CBC	WBC	(3.5-11.0) K/UL...	10/30/2019 1700
	HEMOGLOBIN	(11.0-15.0) G/D...	10/30/2019 1700
	HEMATOCRIT	(32.0-45.0) %: 45	10/30/2019 1700
	PLATELET COUNT	(150-400) K/UL:...	10/30/2019 1700
INFLUENZA PANELS	INFLUENZA A AB, IGG	RESULT PENDING	10/30/2019 1700
	INFLUENZA B AB, IGG	RESULT PENDING	10/30/2019 1700
BACTERIOLOGY	BLOOD CULTURE	RESULT PENDING	10/30/2019 1700
OTHERS	URINE ALBUMIN CONC.	NORMAL	10/30/2019 1700
	XR CHEST AP OR PA		10/30/2019 1700

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ActiveSigned & HeldHome MedsCosignOrder History

Order and Order Set Search

Place new orders or order sets

☆ ☐ Only Favorites

► Orders

Orders

Chuck Patient

☐ ACUTE FEBRILE TICK PANEL

☐ Blood Culture X2 Stat

☐ CPK (\$\$)

☐ CT Angio Chest (\$\$\$\$\$)

☐ CXR (aka XR Chest 1 View (AP or PA)) (\$)

☐ EKG 12-LEAD

☐ INFLUENZA PANEL

☐ SPUTUM CULTURE - RESPIRATORY (\$\$\$)

☐ TRAUMA DRUG SCREEN, URINE (\$\$\$\$\$)

☐ TSH (\$\$\$\$)

Holly Patient

☐ Blood Cultures x1 Stat

☐ BNP (\$\$\$\$\$)

☐ Calcium (\$)

☐ EKG 12-LEAD

☐ Lactate (\$\$)

☐ Magnesium (\$\$)

☐ POC Lab Glucose-Meter

☐ TSH (\$\$\$\$)

Perry Patient

☐ ACUTE FEBRILE TICK PANEL

☐ Blood Cultures x 2 STAT

☐ BUN #1 & #2

☐ CPK (aka Creatinine Kinase) (\$\$)

☐ CT Angio Chest (\$\$\$\$\$)

☐ CXR (aka XR Chest 1 View (AP or PA)) (\$)

☐ EKG 12-LEAD

☐ INFLUENZA PANEL

☐ POC Creatinine #1

☐ POC Creatinine #2

☐ POC Electrolytes #1

☐ POC Electrolytes #2

☐ POC Lab Glucose-Meter #1

☐ POC Lab Glucose-Meter #2

☐ SPUTUM CULTURE - RESPIRATORY (\$\$\$)

☐ Telemetry monitoring

☐ TRAUMA DRUG SCREEN, URINE (\$\$\$\$\$)

☐ TROP (aka Troponin T)

☐ TSH (\$\$\$\$)

No current selections.

Clear All Selected

AcceptCancel

+

New

Next

★ ☐ Only Favorites

► Orders

☐ BNP (\$\$\$\$)

☐ Calcium (\$)

☐ EKG 12-LEAD

Perry Patient

☐ ACUTE FEBRILE TICK PANEL

☐ Blood Cultures x 2 STAT

☐ BUN #1 & #2

☐ CPK (aka Creatinine Kinase) (\$\$)

☐ CT Angio Chest (\$\$\$\$)

☐ CXR (aka XR Chest 1 View (AP or PA)) (\$)

☒ EKG 12-LEAD

☐ INFLUENZA PANEL

☒ POC Creatinine #1

☐ POC Creatinine #2

Sybil Patient

☐ ALT (\$\$)

☐ BILIRUBIN, TOTAL (\$)

☐ Blood Culture

☐ CT Abdomen Pelvis with contrast (\$\$\$\$)

☐ Magnesium (\$\$)

☐ POC Lab Glucose-Meter

☐ TSH (\$\$\$\$)

☒ POC Electrolytes #1

☐ POC Electrolytes #2

☒ POC Lab Glucose-Meter #1

☐ POC Lab Glucose-Meter #2

☐ SPUTUM CULTURE - RESPIRATORY (\$\$\$)

☒ Telemetry monitoring

☒ TRAUMA DRUG SCREEN, URINE (\$\$\$\$)

☒ TROP (aka Troponin T)

☐ TSH (\$\$\$\$)

☐ EKG 12-LEAD

☐ HAPTOGLOBIN (\$\$\$)

☐ LDH (\$\$)

☐ SMEAR HEMATOLOGIST
REVIEW/PERIPHERAL

[Browse](#)

[Preference List](#)

[Facility List](#)

Procedures

☒ TROP (aka Troponin T) ✗

☒ TRAUMA DRUG
SCREEN, URINE ✗

☒ Telemetry monitoring ✗

☒ POC Lab Glucose-Meter
#1 ✗

☒ POC Electrolytes #1 ✗

☒ POC Creatinine #1 ✗

☒ EKG 12-LEAD ✗



Manage Orders

Order Sets

Options ▾

+ New

Standard



! Next

New Orders

EKG 12-LEAD

Order details

POC Creatinine #1

Within 3 hours (GHS), First occurrence today at 1108

POC Electrolytes #1

Within 3 hours (GHS), First occurrence today at 1108

POC Lab Glucose-Meter #1

P Within 3 hours (GHS), First occurrence today at 1108, Please do not use on critically ill patients with the following: Shock Patients, Patients on vasopressors, Hematocrit values less than 10.0% or greater than 65.0%, Patients with edema in limb where blood will be sampled.

Telemetry monitoring

Routine, CONTINUOUS, starting today at 1108, Until Specified

TRAUMA DRUG SCREEN, URINE

Within 3 hours (GHS), First occurrence today at 1108, Unit Collect

TROP (aka Troponin T)

STAT LAB, First occurrence today at 1108, Lab Collect

Remove All

Save Work

Sign

GUNDERSEN
HEALTH SYSTEM®

Refresh: 10/31/2019 1102 Time Mark Back Forward View Hide Tree Ref Range Load All Flo

☐ Hide data prior to: 2/2/2019 Use Date Range Wizard Newest First Oldest First

GROUP	COMPONENT	DATA	DATE/TIME
ARTERIAL BLOOD GAS	PH	(7.35-7.45): 7.15	10/30/2019 1700
	PO2	(78-82) MMHG: 65	10/30/2019 1700
ARTERIAL CORD GAS BLOOD	PCO2	(35-45) MMHG: 20	10/30/2019 1700
CARDIAC	TROPONIN T	(0.00 - 0.07) N...	10/30/2019 1700
MISC CHEMISTRY	HEMOGLOBIN A1C	6.3 !	2/2/2019
GENERAL RENAL / METABOLIC	SODIUM	(135-145) MEQ/L...	10/30/2019 1700
	POTASSIUM	(3.6-5.1) MEQ/L...	10/30/2019 1700
	CHLORIDE	(98-110) MEQ/L...	10/30/2019 1700
	CARBON DIOXIDE-TOTAL	(20-30) MEQ/L: 10	10/30/2019 1700
	LACTATE	(0.5 - 2.2): 3	10/30/2019 1700
	LACTATE	(0.5 - 2.2): 3.0	10/30/2019 1700
	BUN	(6-24) MG/DL: 35	10/30/2019 1700
	CREATININE	(0.4-1.3) MG/DL...	10/30/2019 1700
	GLUCOSE	(67-109) MG/D: ...	10/30/2019 1700
GENERAL COAGULATION / SCREENING	INR	(0.8 - 1.1): 1.0	10/30/2019 1700
CBC	WBC	(3.5-11.0) K/UL...	10/30/2019 1700
	HEMOGLOBIN	(11.0-15.0) G/D...	10/30/2019 1700
	HEMATOCRIT	(32.0-45.0) %: 45	10/30/2019 1700
	PLATELET COUNT	(150-400) K/UL:...	10/30/2019 1700
INFLUENZA PANELS	INFLUENZA A AB, IGG	RESULT PENDING	10/30/2019 1700
	INFLUENZA B AB, IGG	RESULT PENDING	10/30/2019 1700
BACTERIOLOGY	BLOOD CULTURE	RESULT PENDING	10/30/2019 1700
OTHERS	URINE ALBUMIN CONC.	NORMAL	10/30/2019 1700
	XR CHEST AP OR PA		10/30/2019 1700

Before refresh

Refresh: 10/31/2019 1109 Time Mark Back Forward View Hide Tree Ref Range Load All Flowsheet

☐ Hide data prior to: 2/2/2019 Use Date Range Wizard Newest First Oldest First

GROUP	COMPONENT	DATA	DATE/TIME
ARTERIAL BLOOD GAS	PH	(7.35-7.45): 7.15	10/30/2019 1700
	PO2	(78-82) MMHG: 65	10/30/2019 1700
ARTERIAL CORD GAS BLOOD	PCO2	(35-45) MMHG: 20	10/30/2019 1700
CARDIAC	TROPONIN T	(0.00 - 0.07) N...	10/31/2019 1108
MISC CHEMISTRY	HEMOGLOBIN A1C	6.3 !	2/2/2019
GENERAL RENAL / METABOLIC	SODIUM	(135-145): 122	10/31/2019 1108
	POTASSIUM	(3.6-5.1): 2.0	10/31/2019 1108
	CHLORIDE	(98-110): 90	10/31/2019 1108
	CARBON DIOXIDE-TOTAL	(20-30): 12	10/31/2019 1108
	LACTATE	(0.5 - 2.2): 3	10/30/2019 1700
	LACTATE	(0.5 - 2.2): 3.0	10/30/2019 1700
	BUN	(6-24) MG/DL: 35	10/30/2019 1700
	CREATININE	(0.4-1.3) MG/DL...	10/30/2019 1700
	GLUCOSE	(67-109) MG/DL:...	10/31/2019 1108
COMPREHENSIVE METABOLIC PANEL	CREATININE	(0.4-1.3) MG/DL...	10/31/2019 1108
GENERAL COAGULATION / SCREENING	INR	(0.8 - 1.1): 1.0	10/30/2019 1700
CBC	WBC	(3.5-11.0) K/UL...	10/30/2019 1700
	HEMOGLOBIN	(11.0-15.0) G/D...	10/30/2019 1700
	HEMATOCRIT	(32.0-45.0) %: 45	10/30/2019 1700
	PLATELET COUNT	(150-400) K/UL:...	10/30/2019 1700
INFLUENZA PANELS	INFLUENZA A AB, IGG	RESULT PENDING	10/30/2019 1700
	INFLUENZA B AB, IGG	RESULT PENDING	10/30/2019 1700
BACTERIOLOGY	BLOOD CULTURE	RESULT PENDING	10/30/2019 1700
OTHERS	URINE ALBUMIN CONC.	NORMAL	10/30/2019 1700
	XR CHEST AP OR PA		10/30/2019 1700

After refresh

Method for Feedback

Manage Orders

Active Signed & Held Home Meds Cosign Order History

Lab

TRAUMA DRUG SCREEN, URINE

Within 3 hours (GHS), Thu 10/31/19 at 1108, For 1 occurrence, Unit Collect
New collection

TSH

Within 3 hours (GHS), Thu 10/31/19 at 1116, For 1 occurrence, Lab Collect
New collection



Ultrasound

THEME Generated System Change

Gap Analysis Prior to Grant

- Point of Care US (POCUS) virtually unutilized by PCP's and hospitalists at GHS
- No credentialing model
- No faculty training
- No POCUS machines in clinics and hospitals
- Minimal Exposure in FM/IM/PA training

A secondary driver for THEME:Goals



Purchase of 3 high resolution
POCUS machines through grant



Faculty Development time for co-
PI's on grant

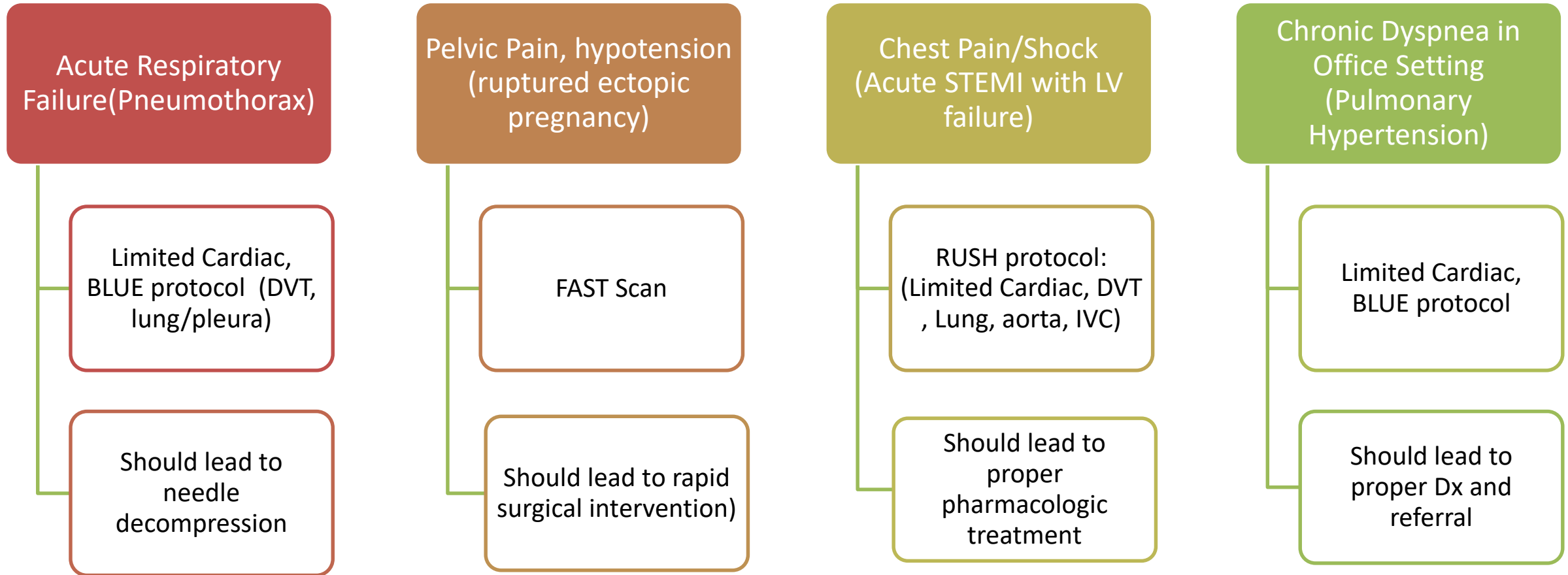


Development of dedicated
resident curricular time for POCUS
training in IM/FM residencies

Incorporation in Simulation

- Realism/Fidelity
- Inpatient/Outpatient
- Mastery with limited skills
- Pre-Sim chalk talks
- Assure POCUS added to diagnostic/therapeutic aspects of case

Cases/Concepts





Ultrasound Simulator

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HEALTH SYSTEM®

Institutional Change from Theme

- Development of POCUS credentialing materials
- Training of Faculty
- Purchase of hand-held POCUS machines for all teaching in IM and FM residencies
- Development of 2 day POCUS course for hospitalists/PCP

Evaluation & Assessment

Recognize inherent limitations

Questions to consider:

- What are meaningful and obtainable metrics?
- What aspects of the program will we evaluate?
- What tools will we use to evaluate?

Scheduling!!

Meshing expectations
& needs

Logistics & use of
simulation center

- Time and space
- Transition from procedural to clinical focus

Resources

- Faculty
- Support personnel
- IT infrastructure

Sim center activities

- Development of a SP panel
- Differing needs of medical learners

Barriers – real & potential

Sim center optimizations

- IPE simulation center use
 - Gaining trainee buy-in
 - Increasing fidelity with EMR integration
 - Reality enhancement of the sim center (drugs, environment, moulage)
 - SPs

Team optimizations

- Expansion has included module development related to Opioids & Behavioral Medicine specialists
 - Case design
 - overdose, withdrawal, chronic pain management, angry patient demanding narcotics
- External evaluators for team function
- Expanding role of senior residents as teachers & mentors in the project
- Transformation of our team members
- Partner with sim techs and SP's

Future directions



EXPLORING BENEFIT OF VIDEO FOR
FEEDBACK, DEBRIEFING AND
REVISION



INCLUSION AND EXPANSION OF
OTHER DISCIPLINES



INTEGRATION OF TEAMSTEPPS 2.0
INTO MEDICAL EDUCATION
CULTURE

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**Thank you for your
attention today**