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Point-of-Care Ultrasound: Documentation and Billing Overview

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Disclosures

- Small amount of stock in Nanosonics (Trophon)

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Project Goals

1. Improve professional and technical fee capture

2. Improve exam documentation
    a. Patient FIN
    b. Provider IDs
    c. Video clips of minimum exam views
    d. Indication and interpretation

3. Improve clinical transparency
    a. Images- radiologist, ob, surgery, cardiology
    b. QPath reports shared via EMR

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Scope of Project (Phase I)

Grand Rapids Emergency Departments

- Butterworth- 100,000 adults / year
- HDVCH- 50,000 pediatric / year
- Blodgett- 28,000 combined visits/ year

7 Zonare ultrasound systems

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Demographic Page

Last:

First: Middle: Gender: Male

ID: PT BRACELET FIN Accession:

DOB: - - 19 (MM-DD-YYYY) Age:

Operator: RESIDENT CERNER ID

Ref.Phys ATTENDING CERNER ID

StudyDes:

Comment: BRIEF HPI

SAVE THIS SCREEN AS AN IMAGE

Exit | New | Worklist | Pat.Log | Restart | Details

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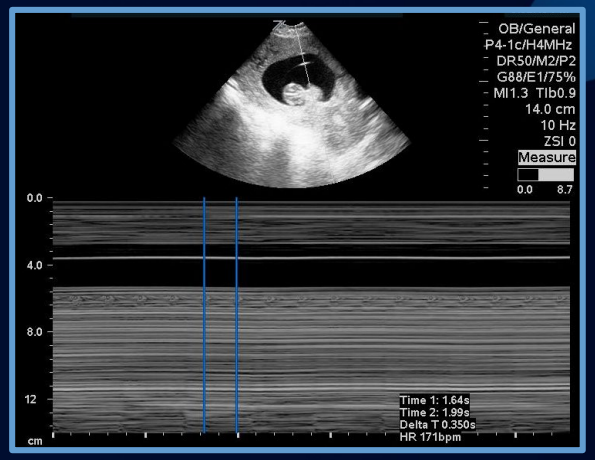
Required Views: Early OB



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New Billing Worksheet

- ✓ Ability to place technical fee order immediately
- ✓ Selectively bill for components of exam ie. EFAST, Hypotensive Exam
- ✓ Ability to order independent of exam's preset
- ✓ Selectively transfers patient care exams to EMR and PACS
- ✓ Creates a duplicate set of images for each billable exam in PACS

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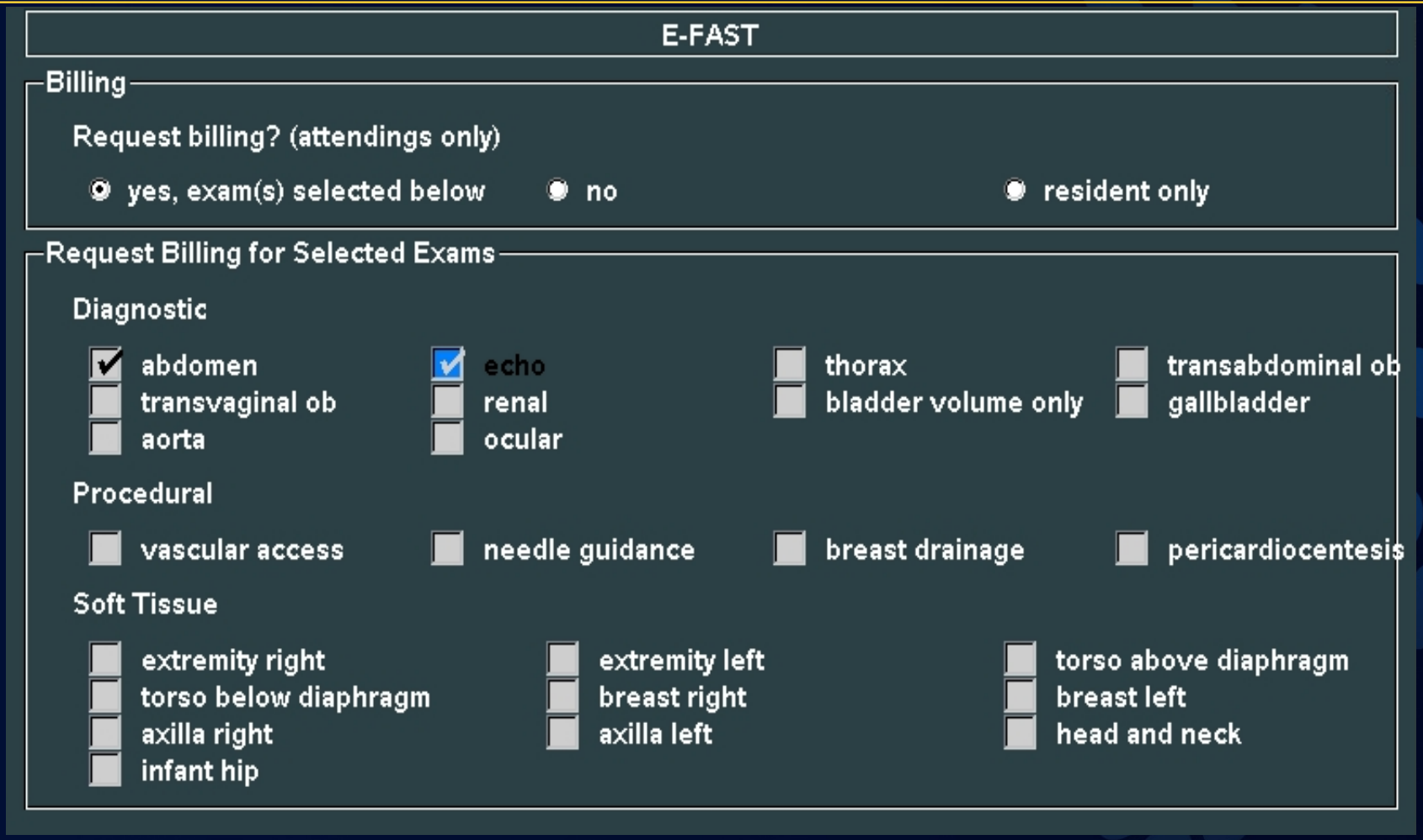
Bedside Order Placement



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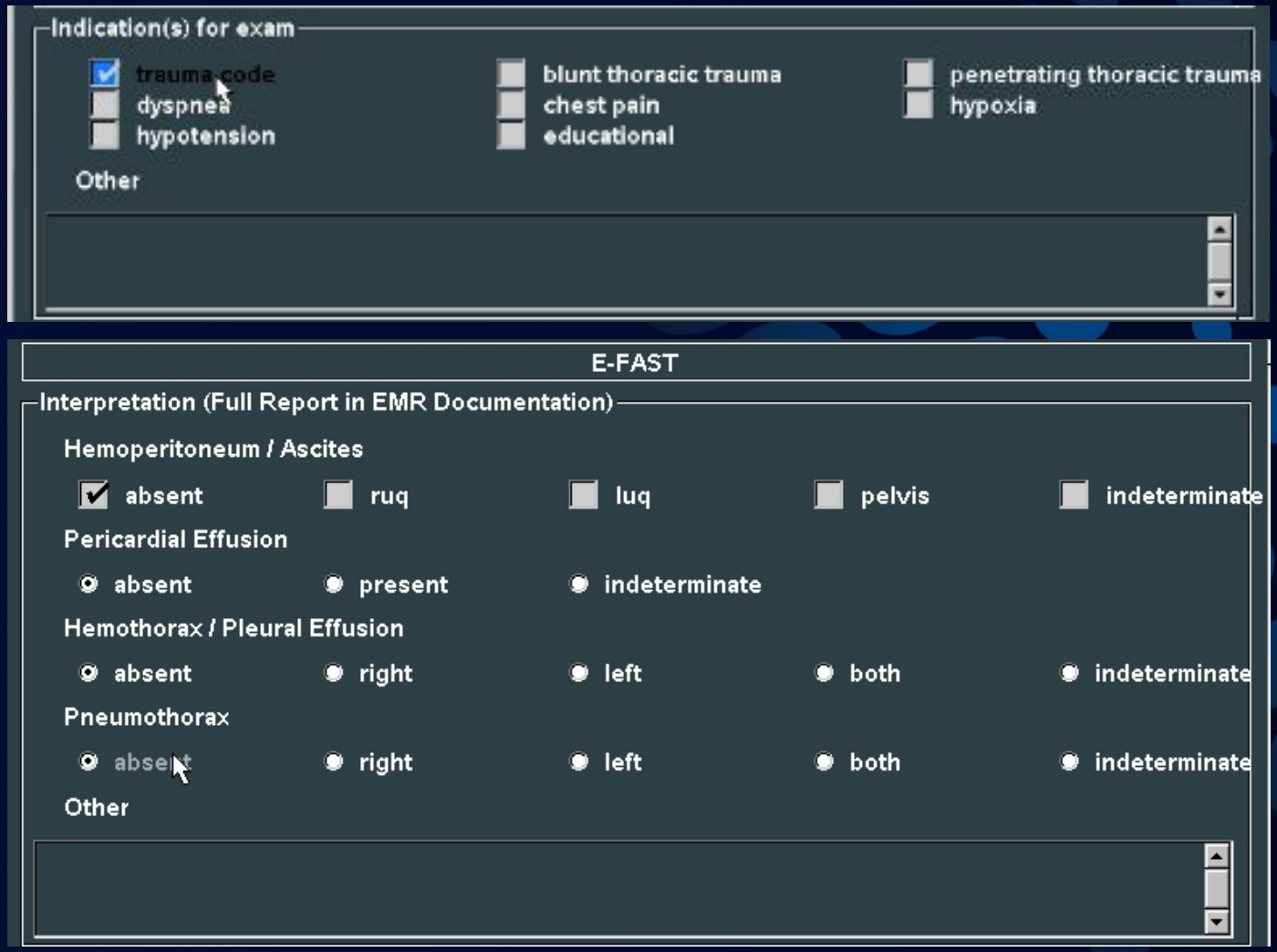
QPath Bedside Documentation



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Physician Ends Exam

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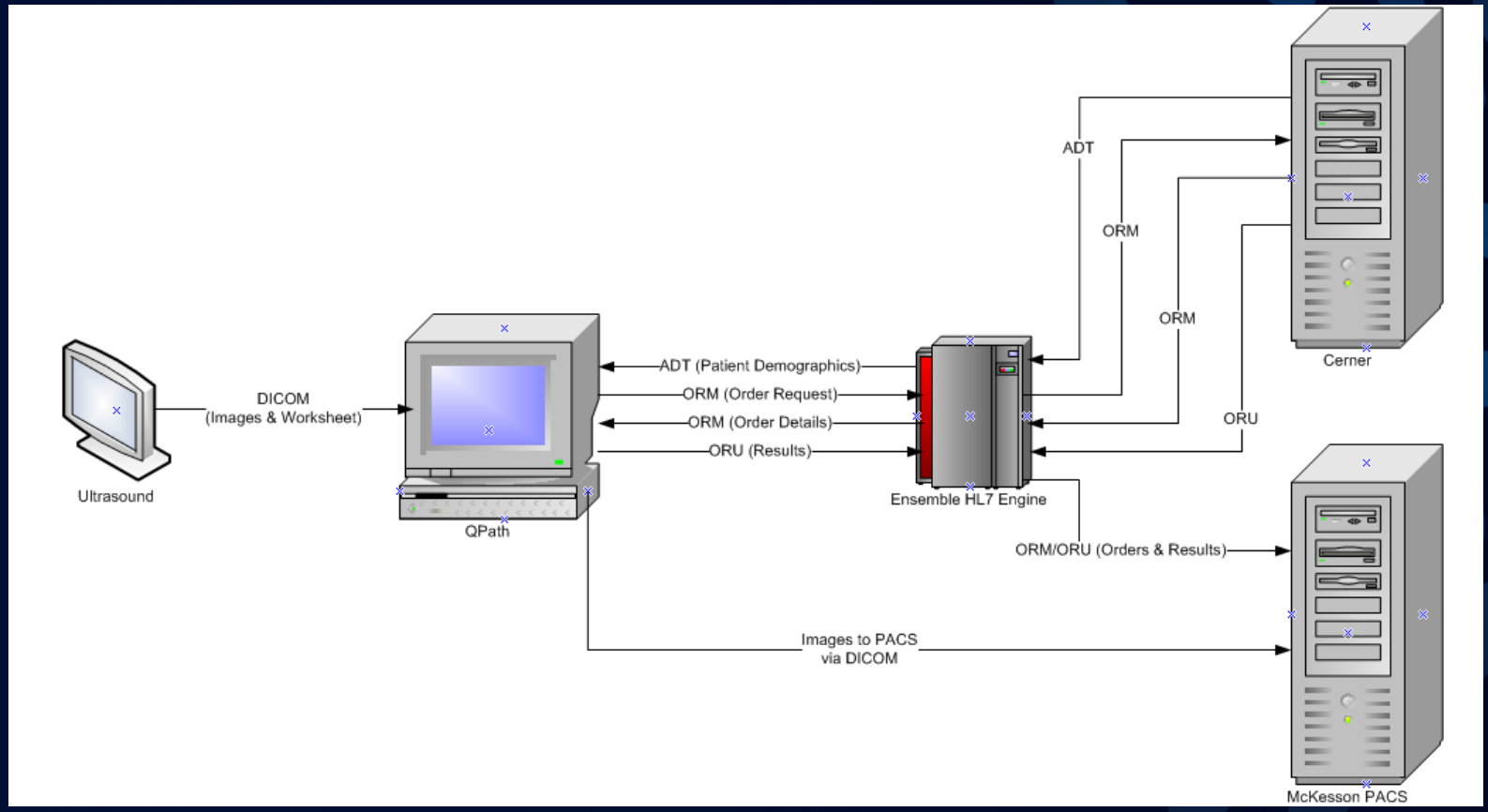
QPath Network Communication



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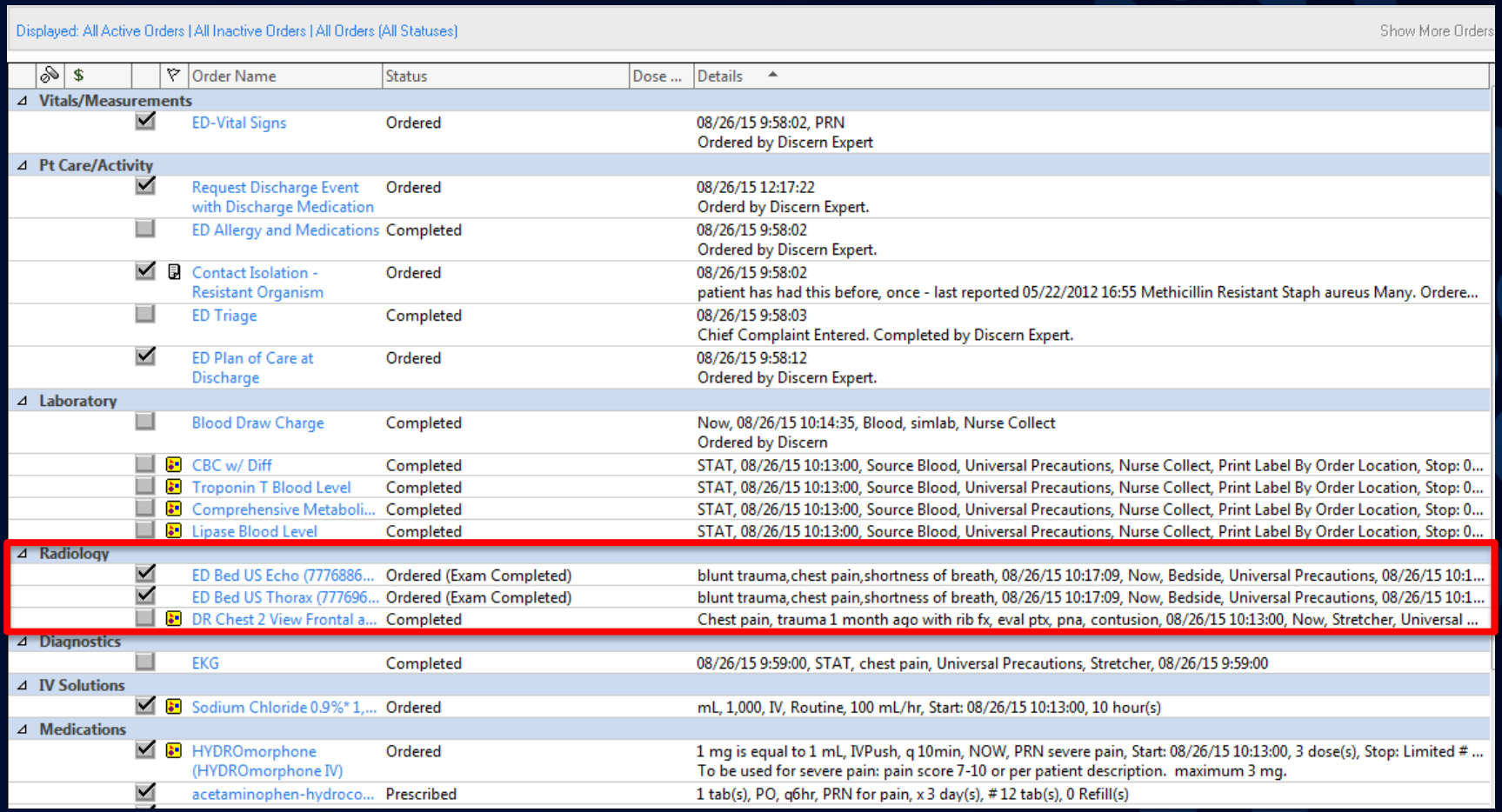
Cerner Technical Fee Orders



Displayed: All Active Orders | All Inactive Orders | All Orders (All Statuses) — Show More Orders

	$		Order Name	Status	Dose ...	Details
Vitals/Measurements						
	☑		ED-Vital Signs	Ordered		08/26/15 9:58:02, PRN Ordered by Discern Expert
Pt Care/Activity						
	☑		Request Discharge Event with Discharge Medication	Ordered		08/26/15 12:17:22 Orderd by Discern Expert.
	☐		ED Allergy and Medications	Completed		08/26/15 9:58:02 Ordered by Discern Expert.
	☑		Contact Isolation - Resistant Organism	Ordered		08/26/15 9:58:02 patient has had this before, once - last reported 05/22/2012 16:55 Methicillin Resistant Staph aureus Many. Ordere...
	☐		ED Triage	Completed		08/26/15 9:58:03 Chief Complaint Entered. Completed by Discern Expert.
	☑		ED Plan of Care at Discharge	Ordered		08/26/15 9:58:12 Ordered by Discern Expert.
Laboratory						
	☐		Blood Draw Charge	Completed		Now, 08/26/15 10:14:35, Blood, simlab, Nurse Collect Ordered by Discern
	☐		CBC w/ Diff	Completed		STAT, 08/26/15 10:13:00, Source Blood, Universal Precautions, Nurse Collect, Print Label By Order Location, Stop: 0...
	☐		Troponin T Blood Level	Completed		STAT, 08/26/15 10:13:00, Source Blood, Universal Precautions, Nurse Collect, Print Label By Order Location, Stop: 0...
	☐		Comprehensive Metaboli...	Completed		STAT, 08/26/15 10:13:00, Source Blood, Universal Precautions, Nurse Collect, Print Label By Order Location, Stop: 0...
	☐		Lipase Blood Level	Completed		STAT, 08/26/15 10:13:00, Source Blood, Universal Precautions, Nurse Collect, Print Label By Order Location, Stop: 0...
Radiology						
	☑		ED Bed US Echo (7776886...	Ordered (Exam Completed)		blunt trauma,chest pain,shortness of breath, 08/26/15 10:17:09, Now, Bedside, Universal Precautions, 08/26/15 10:1...
	☑		ED Bed US Thorax (777696...	Ordered (Exam Completed)		blunt trauma,chest pain,shortness of breath, 08/26/15 10:17:09, Now, Bedside, Universal Precautions, 08/26/15 10:1...
	☐		DR Chest 2 View Frontal a...	Completed		Chest pain, trauma 1 month ago with rib fx, eval ptx, pna, contusion, 08/26/15 10:13:00, Now, Stretcher, Universal ...
Diagnostics						
	☐		EKG	Completed		08/26/15 9:59:00, STAT, chest pain, Universal Precautions, Stretcher, 08/26/15 9:59:00
IV Solutions						
	☑		Sodium Chloride 0.9%* 1,...	Ordered		mL, 1,000, IV, Routine, 100 mL/hr, Start: 08/26/15 10:13:00, 10 hour(s)
Medications						
	☑		HYDROmorphone (HYDROmorphone IV)	Ordered		1 mg is equal to 1 mL, IVPush, q 10min, NOW, PRN severe pain, Start: 08/26/15 10:13:00, 3 dose(s), Stop: Limited # ... To be used for severe pain: pain score 7-10 or per patient description. maximum 3 mg.
	☑		acetaminophen-hydroco...	Prescribed		1 tab(s), PO, q6hr, PRN for pain, x 3 day(s), # 12 tab(s), 0 Refill(s)

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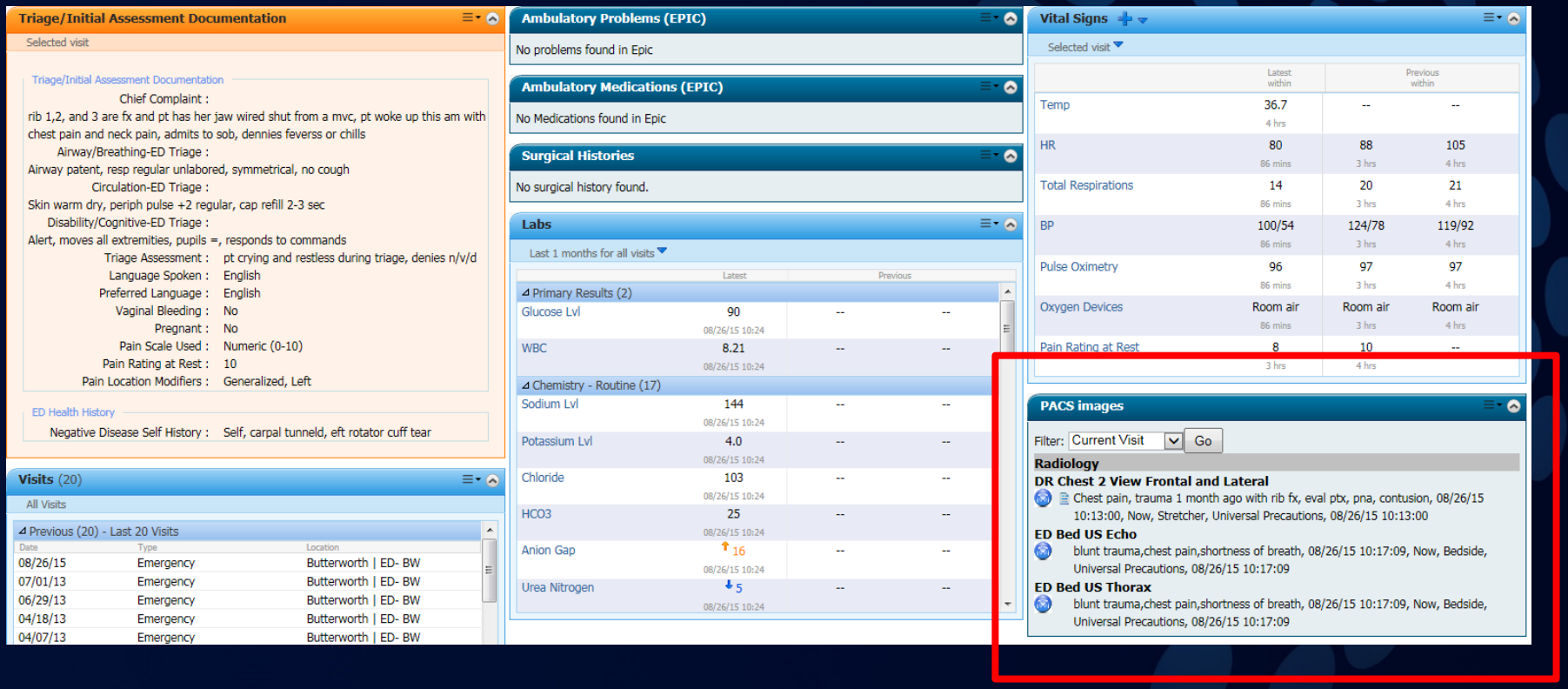
Cerner ED Summary Page



Triage/Initial Assessment Documentation

Selected visit

Triage/Initial Assessment Documentation

Chief Complaint :
rib 1,2, and 3 are fx and pt has her jaw wired shut from a mvc, pt woke up this am with chest pain and neck pain, admits to sob, dennies feverss or chills
Airway/Breathing-ED Triage :
Airway patent, resp regular unlabored, symmetrical, no cough
Circulation-ED Triage :
Skin warm dry, periph pulse +2 regular, cap refill 2-3 sec
Disability/Cognitive-ED Triage :
Alert, moves all extremities, pupils =, responds to commands

Triage Assessment :	pt crying and restless during triage, denies n/v/d
Language Spoken :	English
Preferred Language :	English
Vaginal Bleeding :	No
Pregnant :	No
Pain Scale Used :	Numeric (0-10)
Pain Rating at Rest :	10
Pain Location Modifiers :	Generalized, Left

ED Health History

Negative Disease Self History : Self, carpal tunneld, eft rotator cuff tear

Visits (20)

All Visits

Previous (20) - Last 20 Visits

Date	Type	Location
08/26/15	Emergency	Butterworth | ED- BW
07/01/13	Emergency	Butterworth | ED- BW
06/29/13	Emergency	Butterworth | ED- BW
04/18/13	Emergency	Butterworth | ED- BW
04/07/13	Emergency	Butterworth | ED- BW

Ambulatory Problems (EPIC)

No problems found in Epic

Ambulatory Medications (EPIC)

No Medications found in Epic

Surgical Histories

No surgical history found.

Labs

Last 1 months for all visits

	Latest	Previous	
Primary Results (2)			
Glucose Lvl	90 08/26/15 10:24	--	--
WBC	8.21 08/26/15 10:24	--	--
Chemistry - Routine (17)			
Sodium Lvl	144 08/26/15 10:24	--	--
Potassium Lvl	4.0 08/26/15 10:24	--	--
Chloride	103 08/26/15 10:24	--	--
HCO3	25 08/26/15 10:24	--	--
Anion Gap	↑16 08/26/15 10:24	--	--
Urea Nitrogen	↓5 08/26/15 10:24	--	--

Vital Signs

Selected visit

	Latest within	Previous within	
Temp	36.7 4 hrs	--	--
HR	80 86 mins	88 3 hrs	105 4 hrs
Total Respirations	14 86 mins	20 3 hrs	21 4 hrs
BP	100/54 86 mins	124/78 3 hrs	119/92 4 hrs
Pulse Oximetry	96 86 mins	97 3 hrs	97 4 hrs
Oxygen Devices	Room air 86 mins	Room air 3 hrs	Room air 4 hrs
Pain Rating at Rest	8 3 hrs	10 4 hrs	--

PACS images

Filter: Current Visit Go

Radiology

DR Chest 2 View Frontal and Lateral
Chest pain, trauma 1 month ago with rib fx, eval ptx, pna, contusion, 08/26/15 10:13:00, Now, Stretcher, Universal Precautions, 08/26/15 10:13:00

ED Bed US Echo
blunt trauma,chest pain,shortness of breath, 08/26/15 10:17:09, Now, Bedside, Universal Precautions, 08/26/15 10:17:09

ED Bed US Thorax
blunt trauma,chest pain,shortness of breath, 08/26/15 10:17:09, Now, Bedside, Universal Precautions, 08/26/15 10:17:09

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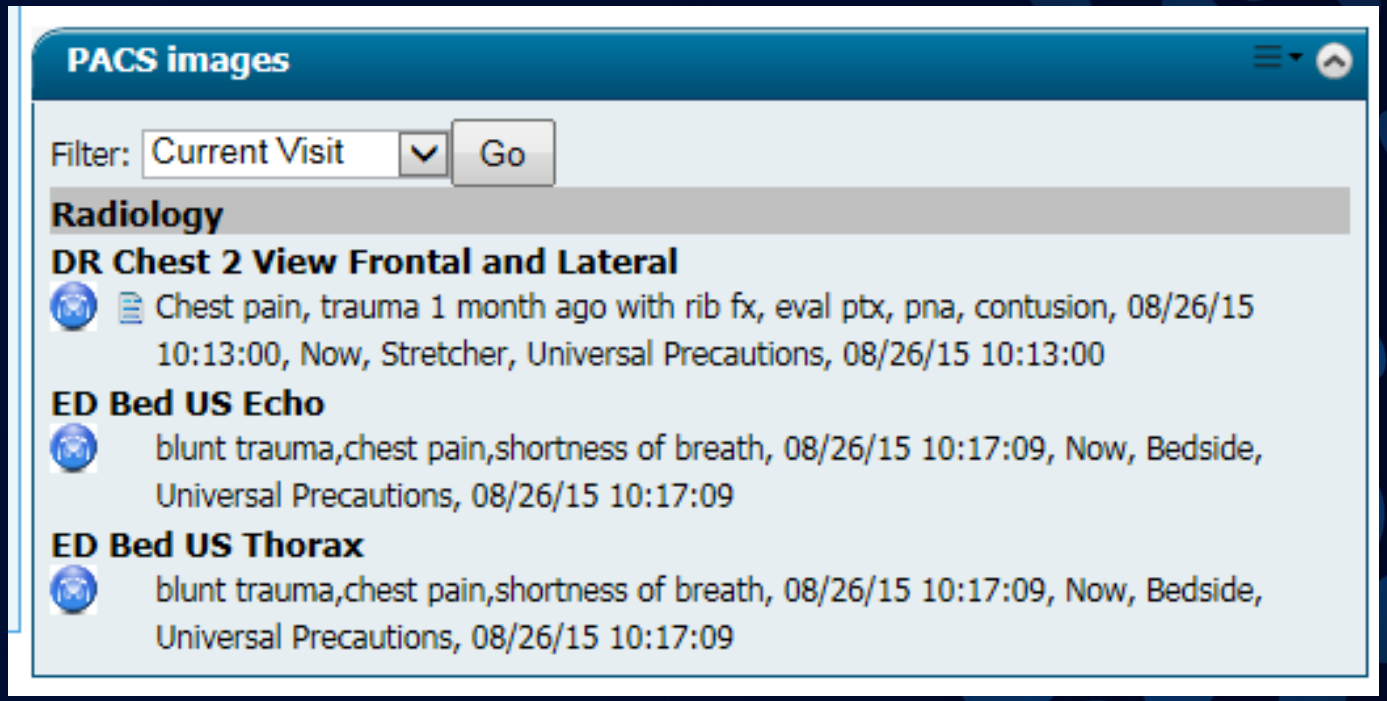
Cerner ED Summary Page



Hyperlink directly to review images on PACS in minutes.

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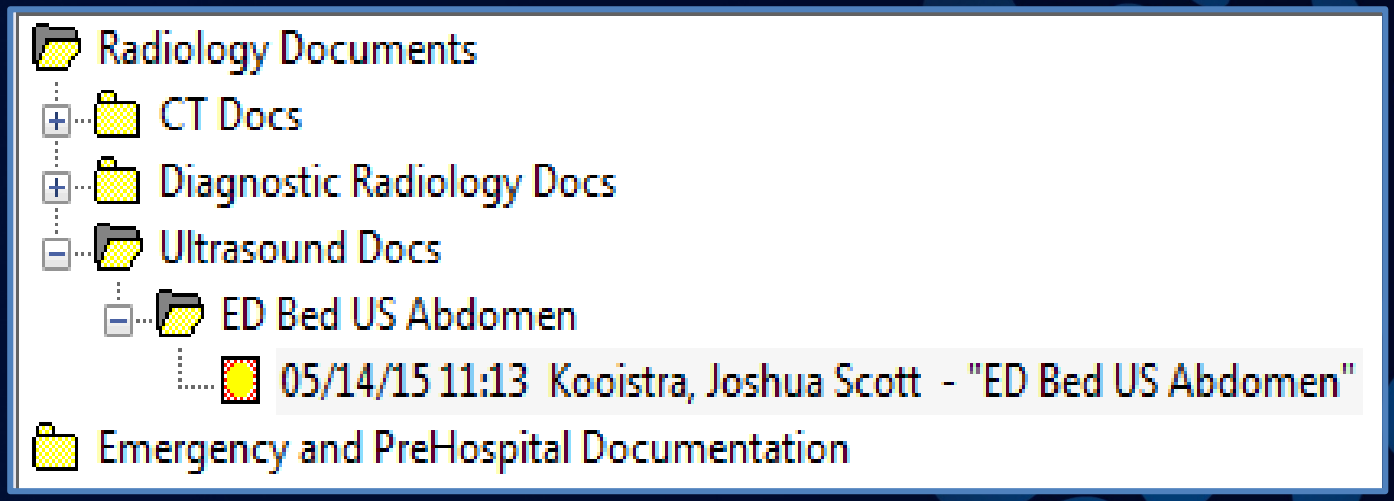
Increased Transparency



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Reason For Exam
blunt trauma

Findings
Spectrum Health
Exam Date: 5/14/2015
Exam Type: FAST
Operator: Keller, Duke
Attending: Kooistra, Joshua
Worksheet: E-FAST
Billing:
   Request billing? (attendings only): yes, exam(s) selected below
Request Billing for Selected Exams:
   Diagnostic: abdomen, echo
Indication(s) for Exam:
   blunt trauma
Interpretation (Full Report in EMR Documentation):
   Hemoperitoneum / Ascites: absent
   Pericardial effusion: absent
   Submit exam for QA: yes

Enhanced professional fee billing and documentation!

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Missing Documentation

Exam Type	Operator	Attending	Review	Images	Clips	Audio	User group	QA Status
All	All	All	All	All	All	All	All	Pending
ECHO/IVC	Coss, Catherine	Flannigan, Matthew	N/A	0	6	0	Resident	Pending
GB	Coss, Catherine	Flannigan, Matthew	N/A	8	6	0	Resident	Pending
OB / Gyn	Shake, Alisha	Riley, Brad	N/A	3	11	0	Resident	Pending
OB / Gyn	Coss, Catherine	Flannigan, Matthew	N/A	5	5	0	Resident	Pending
Transvaginal OB	Coss, Catherine	Flannigan, Matthew	N/A	5	5	0	Resident	Pending
FAST	Buck, Lauren	Mikula, Gary	N/A	4	4	0	Resident	Pending

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Countermeasures

Exam Type	Operator	Attending	Review	Images	Clips	Audio	User group	QA Status	Category	Classification
All	All	All	All	All	All	All	All	Pending	All	FIN / Worksheet
FAST	N/A	N/A	N/A	0	5	0		Pending		FIN / Worksheet
FAST	Chapin, Nicholas	N/A	N/A	1	6	0	Resident	Pending		FIN / Worksheet
Procedural Guidance	Vryhof, Daniel	Poortenga, Scott	N/A	2	1	0	Resident	Pending		FIN / Worksheet
OB / Gyn	Barnes, Mariah	N/A	N/A	1	5	0	Resident	Pending		FIN / Worksheet
FAST	N/A	Hall, Mark	N/A	0	3	0		Pending		FIN / Worksheet
OB / Gyn	Badour, Joshua	Singh, Matt	N/A	4	2	0	Resident	Pending		FIN / Worksheet

Weekly emails to physicians with missing documentation

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Results

Technical Fee Orders

- Cerner Order (Mar 2014 – Feb 2015): 1991
- QPath Order (Mar 2015 – Feb 2016): 3976
- Clinical + Educational Exams: 7033 vs. 7383 (+5%)

Net Result: 96% increase in order capture

PMID: 28646595

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Highlights

Significant improvements to physician workflow!

- Immediate scanning- no pre-exam order
- Bedside documentation
- Bedside order placement
- Improved billing clarity … hypotensive exam

Improved interspecialty communication

Improved technical and professional fee capture

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Challenges

- Information into incorrect fields ➔ RegEx or Qview
- Inability to send QA feedback to EMR
- Lack of automated incomplete documentation reports
- Transfer process failures?
- Patient with multiple exams
  - Each exam has its own billing worksheet: TA OB and TV OB or E-FAST
  - 1st billing worksheet triggers QPath automation
  - Attending and operator fields do not consistently match

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Regional Departments

Phase II (completed: Jan 2016)

- Zeeland- 20,000 combined visits/ year
- Gerber- 25,000 combined visits/ year
- United- 25,000 combined visits/ year
- Big Rapids- 25,000 combined visits/ year
- Reed City- 20,000 combined visits/ year
- Kelsey- 10,000 combined visits/ year

Phase III (projected completion: Jan 2018)

- Pennock- 20,000
- Ludington- 25,000

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Questions?