

**2024**

**Obstetric**

**Sepsis**

**Collaborative**

**Final**

**Presentations**

# **EHR Updates**



Eisenhower Health

# The Family Birth Center EPIC Workflow for Maternal Sepsis

## California Maternal Quality Care Collaborative (CMQCC) Improvement Project

Veronica Williams: Director of Women's Services, Krystal Smith: Maternal/Newborn Manager, Ursula Gainer: Nursing Professional Development Practitioner, Judy Ankney: RN Quality Outcome Analyst for Perinatal Services, Dr. Paul Mike: OB Hospitalist Site Director and Dr. Jaime Tannenbaum: NICU Medical Director

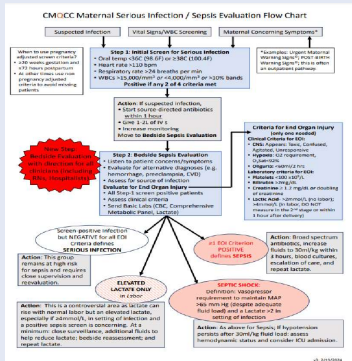
**AIM:** By August 30, 2024, 100% of pregnant women seen at Eisenhower Medical Center Family Birth Center OBED or admitted patients to LDRP will receive a 2-step approach to maternal sepsis screening

### Evidenced Based Practice



- Sepsis occurs in about 0.04% of deliveries and is a leading cause of maternal death (12.7%)
- Most cases (63%) of maternal death from sepsis are likely to have been preventable
- For each maternal death from sepsis, there are 50 women who experience life-threatening morbidity from sepsis
- Significant racial inequities related to maternal deaths from sepsis

### Standardized Algorithm



This achievement is notable because of the collaboration between disciplines and how quickly our OB EPIC IS person was able to build and implement the Maternal Sepsis Screening tool.



### Key Steps to Success

- Bimonthly meetings with OB Team:** Director of Women's Services, Maternal/Newborn Manager, Nursing Professional Development Practitioner and Perinatal Quality Analyst
- Early involvement of stakeholders** in project
- EMC Hospital Sepsis Coordinator** involved with project through implementation
- OB IS EPIC project builder** was assigned to FBC and did not have competing department projects
- IS Ticket placed with OB EPIC person** to include a Best Practice Alert (BPA) hard stop for Step One when 2 out of 4 criteria are met. This will notify RN to notify OB Hospitalist and call Rapid Response Team. Time Zero.
- Education provided to stakeholders** on AIM and CMQCC Maternal Sepsis Algorithm
- Updated hospital wide Sepsis policy** to include Maternal Sepsis

### Clinical Education



- Nurses were educated through PPP, scheduled clinical skill days, Relias education module on Maternal Sepsis, and EPIC computer training on Maternal Sepsis screening tool
- Providers were given CMQCC's provider information from toolkit. OB hospitalist site Director reviewed information with team
- Community OB's, ED providers and residents were given CMQCC's provider information from toolkit
- Maternal Sepsis drill is scheduled to include rapid response and ICU critical care teams.

### Sustainability



- Integrated Sustainability:** The financial return on investment is a non-profit Integrated Strategy for Success and Sustainability that considers all the components of the project as a cohesive whole rather than singling out funding as the key to sustainability
- Sustainability meetings will be scheduled quarterly to review workflows and Maternal Sepsis Data



### Resources:

- Acosta, Kurinczuk, Lucas, et al. PLoS Med 2014
- Buck, 2013
- California Pregnancy-Associated Mortality Review Report from 2002-2007
- Improving diagnosis and treatment of maternal sepsis.(2020). California Maternal Quality Care Collaborative(CMQCC). <https://www.cmqcc.org/resources-toolkits/toolkits/improving-diagnosis-and-treatment-maternal-sepsis>
- Hensley, Bauer, Admon, et al. JAMA 2019
- Kendel et al. AJOG 2019

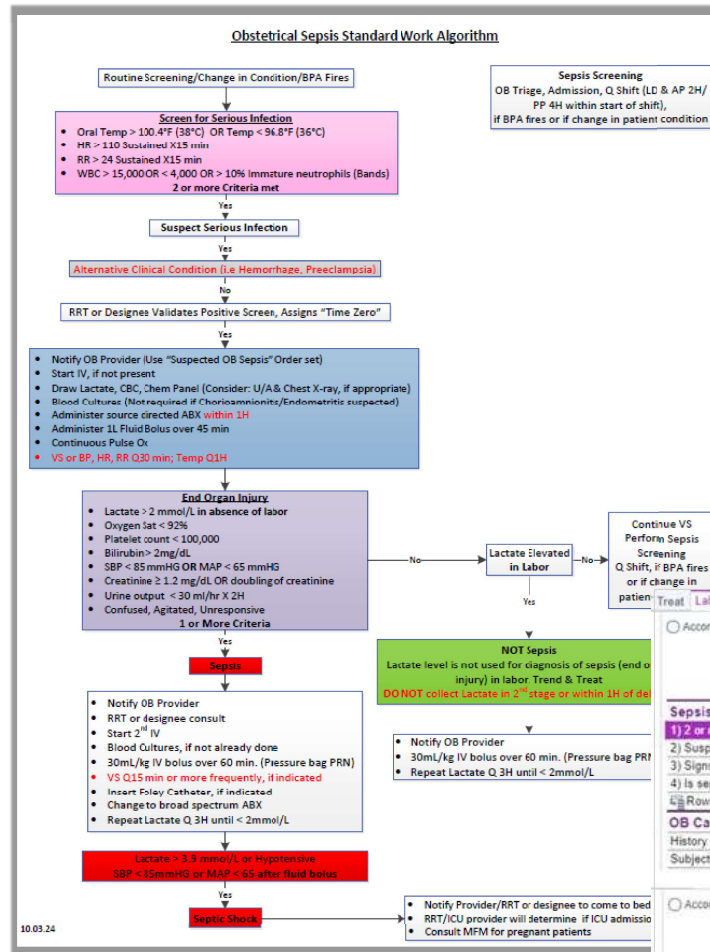
# Sepsis Algorithm and EHR Revisions

Sutter OB Sepsis Leadership Team



## Methods

- OB Sepsis Standard Work Algorithm Revisions (in red)
  - #1 Screening for serious infection (vital signs/labs)
  - #2 Suspect serious infection (SOB, cough, etc.)
  - Evaluation for End Organ Injury with Basic Labs (CBC, Comprehensive Metabolic Panel, Lactate) updated
  - No lactate levels during 2nd stage or within 1 hour of delivery
- EHR Revisions
  - Row information for suspect serious infection and included family/patient observation
  - New or worsening signs of organ injury parameters



**9/26/24 1200**

Admission (Cur... 9/26/2024 1200

**1) 2 or more signs of serious infection**

Select multiple options (F5)

None

Oral Temp > 38.0 (100.4 F) or < 36 C (96.8 F)

Maternal Heart Rate > 110 bpm sustained x 15 min.

Resp Rate > 24 breaths/min sustained x 15 min.

WBC > 15,000 or < 4,000 or > 10% immature neutrophils

Comments (Alt+M)

---

**9/26/24 1200**

Admission (Cur... 9/26/2024 1200

**2) Suspect serious infection?**

Select single option (F5)

No

Yes

Comments (Alt+M)

---

**Row Information**

• Only use values from previous 24 hours

---

**Row Information**

**RN Assessment and/or Patient/Family Reports:**

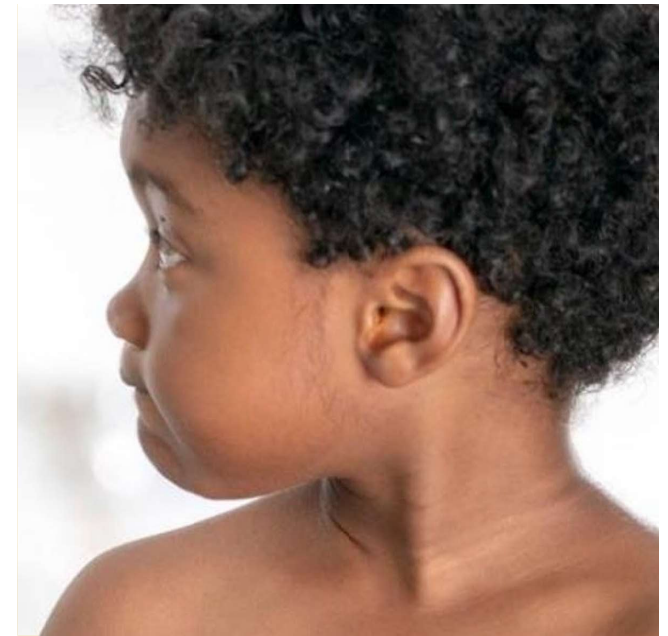
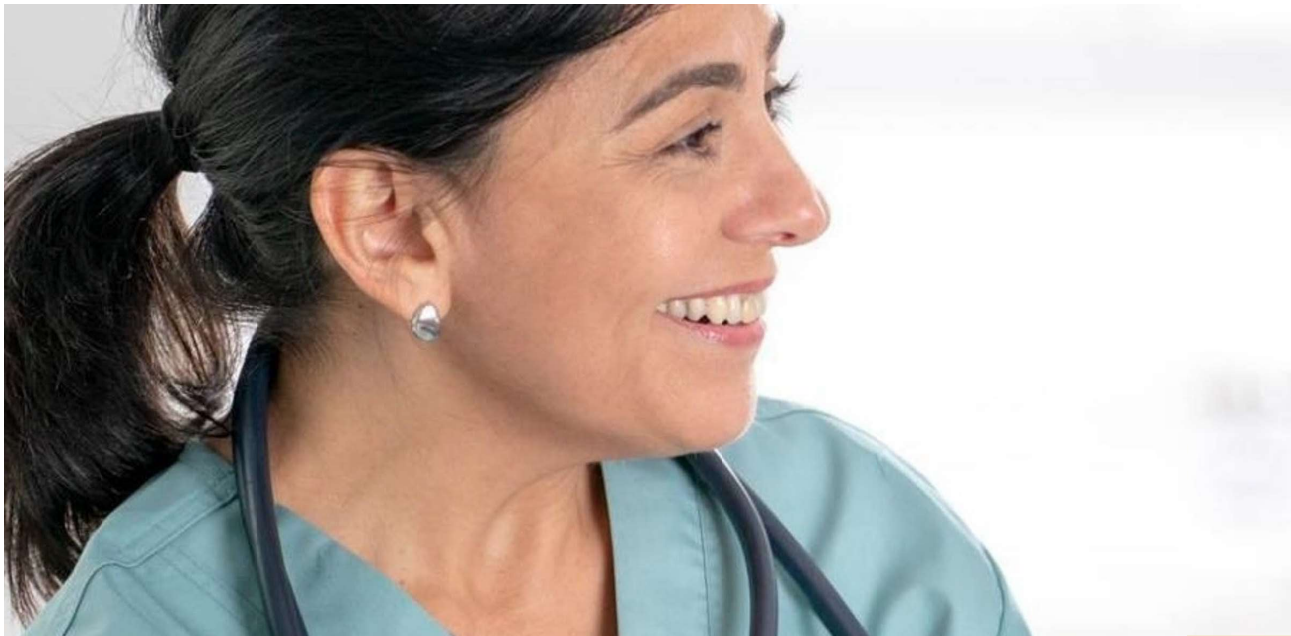
- Fever
- Chills
- Sweating
- SOB
- Cough
- Wound Infection/Celulitis
- Foul smelling vaginal discharge
- UTI symptoms
- Pain:
- Generalized, abdominal, breast, or perineal
- Current antibiotic use



---

# LOMA LINDA UNIVERSITY HEALTH MATERNITY SERVICES CMQCC MATERNAL SEPSIS MENTOR CLOSING PRESENTATION





## THE POWER OF THE ELECTRONIC MEDICAL RECORD



# CMQCC 2 STEP BUILT IN TO DECISION SUPPORT

## Maternal Sepsis Criteria

1. Positive for at **least two** initial sepsis screening criteria within 6 hours of each other:
  - Oral Temp < 96.8° F OR ≥ 100.4° F
  - Heart Rate > 110 beats per min
  - Respiratory Rate > 24 breaths per min
  - WBC (White Blood Cells) > 15,000/mm<sup>3</sup> OR < 4,000/mm<sup>3</sup> OR > 10% bands
  - MAP < 65 mmHg sustained for 15 min

**OR**
2. Anytime a laboring patient has a temperature greater than 102.2° F (one time, without any other criteria)

**OR**

3. A pregnant patient has temperature is 98.6° F to 102.2° F with fetal tachycardia (160 bpm or greater) AND leukocytes greater than 15 or less than 4



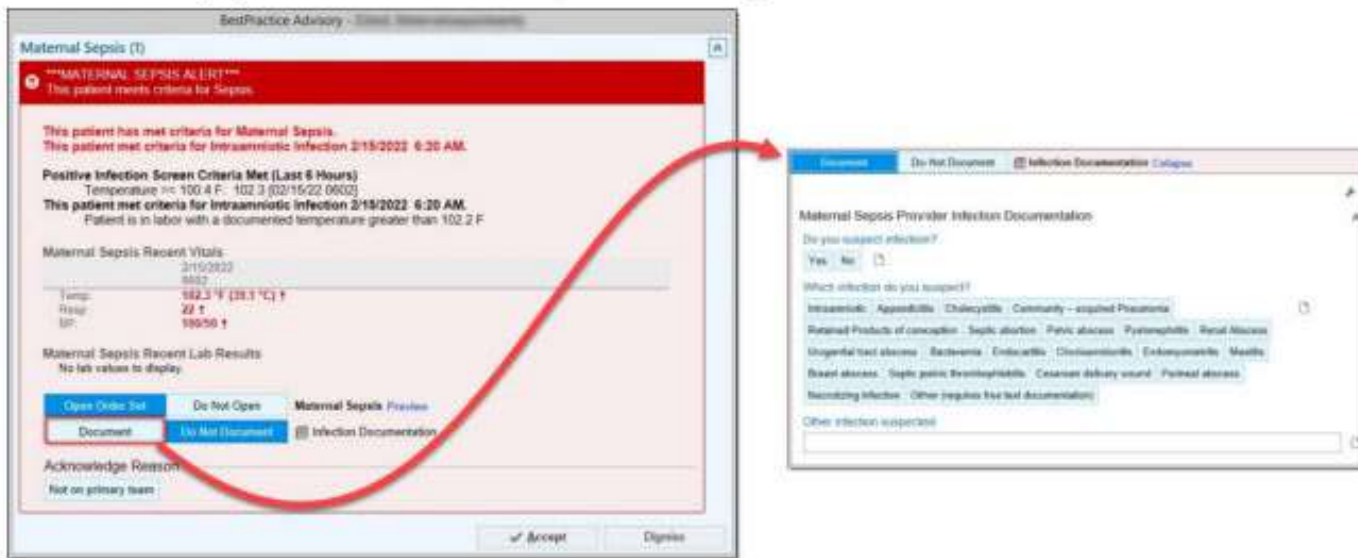
# TIME ZERO MATTERS

## Time Zero Triggers

The sepsis timer will display within in the patient's chart in storyboard.

- Time provider documented YES to '*Do you suspect infection?*' in BPA/Navigator
- OR**
- Time of RN Initial BPA/Abx ordered if provider has not answered '*Do you suspect infection?*'
- OR**
- Any time a laboring patient has a temp greater than 102.2° F (one time without any other criteria)
- OR**
- A pregnant patient has temperature is 98.6° F to 102.2° F with fetal tachycardia (160 bpm or greater) AND leukocytes greater than 15 or less than 4





# BPAS THAT ARE EFFECTIVE



---

# THE POWER OF NURSE DRIVEN CARE

Confidence-building strategies





BestPractice Advisory - Sepsis Training, Mommy

Patient Safety (1)

**ⓘ** This patient meets criteria for Maternal Sepsis/suspected intraamniotic infection treatment per protocol. Enter and implement standing orders and then notify provider (**do not delay treatment**)

This patient has met criteria for Maternal Sepsis. **A**

**Positive Infection Screen Criteria Met (Last 6 Hours)**  
 Temperature  $\geq$  100.4 F: 101.1 [02/17/22 1415]  
 Heart Rate > 110 BPM: 115 [02/17/22 1415]  
 Respiratory Rate > 24 breaths/min: 26 [02/17/22 1415]

**Maternal Sepsis Recent Vitals** **B**

	2/17/2022 1405	2/17/2022 1415
Temp:	101 °F (38.3 °C) †	101.1 °F (38.4 °C) †
Pulse:	115	115 †
Resp:	26 †	26 †
BP:	125/80 †	125/80

**Maternal Sepsis Recent Lab Results**  
 No lab values to display.

**C**

The following actions have been applied: **D**

- ✓ Completed: LI ip ob maternal sepsis file documentation start for reporting
- ✓ Completed: LI ip ob maternal sepsis file sepsis start from bpa - no event last 24 hours

**Acknowledge Reason** **E**

# NURSE BPAS THAT ARE FUNCTIONAL



## Maternal Sepsis Standing Order Set

Once the patient meets criteria for maternal sepsis, place the Maternal Sepsis Order set with an order mode of **Per Protocol**. In the event an intraamniotic infection is suspected, the order set contains hard stops to further address orders for antibiotics.

▼ Antibiotics - if there is suspicion of intraamniotic infection

Suspicion of intraamniotic infection:

- the patient is in labor with a temperature greater than 102.2F
- OR
- the patient has a temperature between or equal to 98.6F to 102.2F with fetal tachycardia (160 bpm or greater) AND leukocytes greater than 15 or less than 4

- ceftriaXone** in DSW (ROCEPHIN) 2 gram/50 mL intermittent PREMIX 2 g  
 2 g, Intravenous, at 100 mL/hr, Once, today at 1445, For 1 dose
- metronIDAZOLE** in NaCl (FLAGYL) intermittent PREMIX 500 mg 100 mL  
 500 mg, Intravenous, Administer over 80 Minutes, Once, today at 1445, For 1 dose

# NURSE DRIVEN CARE WITH DECISION SUPPORT





# IMPACTFUL FEATURES IN STORK

## Grease Board Hover Bubble

To help clinicians quickly identify outstanding Maternal Sepsis tasks a Sepsis column has been added to the Grease Board. Colors and icons appear in the column to help you quickly and accurately care for the patient. Hover over the column and the Maternal Sepsis Checklist will appear providing you with more information and a hyperlink to review the Maternal Sepsis Navigator.

Sepsis | Preeclampsia | Cx Exam | Time sinci ROM | Time Sinc GBS | Infant Losi Closed Ad OB/NICU | Epi

04:18  
◇00:49  
21:20  
◇04:00

**Maternal Sepsis Navigator**  
Jump to Maternal Sepsis Navigator

**Maternal Sepsis Documentation/Review**  
This patient has met criteria for Maternal Sepsis 2/18/2022 11:09 AM.  
**Positive Infection Screen Criteria Met (Most Recent in Last 24 Hours)**  
Temperature  $\geq$  100.4 F: 101 [02/18/22 1107]  
Respiratory Rate > 24 breaths/min: 25 [02/18/22 1107]


**Maternal Sepsis Checklist**  
Last Sepsis Time Zero: 2/18/2022 11:09 AM

**1 Hr - Antibiotics** Please administer antibiotics as ordered or contact Provider if no order exists.

[View Maternal Sepsis Algorithm](#)

## Grease Board Maternal Sepsis Columns

Time	Count
07:03	1
00:34	2
03:34	3
93:33	4
06:45	5

**Note:** Clinicians that have customized their view of the Grease Board will need to use the wrench icon  to reset the view and see the Sepsis column by default.

A. **Sepsis Column** - The newly created Sepsis column will appear by default on the Grease Board. It will contain the time that has passed since the patient met maternal sepsis criteria and time zero was filed in the system. The time displays in **hours: minutes**.

- Red color** – Call the Rapid Response team. The patient's chart contains two instances of documentation identifying the patient's MAP is < 65 within 15 minutes of each other and within 1 hour after administering the required 30ml/kg to the patient.
- No color** – If the maternal sepsis counter displays then the patient has indicated for maternal sepsis AND the absence of a highlight color indicates the patient does not have any outstanding maternal sepsis tasks overdue.
- Orange color** – Indicates the patient has indicated for maternal sepsis with end organ damage.
- Grey color** – Indicates the patient is no longer on the maternal sepsis protocol.
- Yellow color** – Indicates the patient's chart has overdue or upcoming overdue maternal sepsis protocol documentation tasks. Hover to discover the outstanding / upcoming outstanding tasks and treat the patient accordingly.

# GREASE BOARD FUNCTIONALITY



# STORYBOARD WORKS FOR YOU

## Storyboard Hover bubble

Once time zero has started, a sepsis timer will appear on the patient's storyboard. Hovering over the timer will display a hover bubble that contains important information and a link to the Maternal Sepsis Navigator.

The screenshot displays a patient's storyboard with a sidebar on the left and a main content area on the right. The sidebar includes patient information for 'Mummy Trainingsepsisfour' and a 'Sepsis: 02:04' timer. The main content area features several sections: 'Maternal Sepsis Documentation/Review' with a notification that the patient has met criteria for Maternal Sepsis on 2/18/2022 at 11:09 AM; 'Maternal Sepsis Checklist' showing that infection screen criteria (Temperature >= 100.4 F and Respiratory Rate > 24 breaths/min) have been met, and a '1 hr - Antibiotics' checkbox is checked with the note 'Antibiotics have been administered'; 'Maternal Sepsis Recent Vitals' table with values: Temp: 101 F (38.3 °C) ↑, Pulse: 100 ↑, Resp: 25 ↑, BP: 100/80 ↑; 'Maternal Sepsis Recent Lab Results' with a note 'No lab values to display'; 'Maternal Sepsis Navigator' with a link to 'Jump to Maternal Sepsis Navigator'; and 'Maternal Sepsis BPA Review' with a link to 'Click to view BestPractice Advisory history'. A red box highlights the 'Sepsis: 02:04' timer and its corresponding hover bubble.

Vital	Value
Temp	101 F (38.3 °C) ↑
Pulse	100 ↑
Resp	25 ↑
BP	100/80 ↑



## Summary – Sepsis Overview Report

With the sepsis timer started, clicking on the timer will open the Sepsis Overview report. This report will display the **Maternal Sepsis Checklist**, **Shock Index Score**, **Recent Vitals**, **Labs**, **Microbiology**, and **Imaging** if applicable.

The screenshot displays a web-based medical interface. On the left, a sidebar shows a 'Sepsis 02:43' timer. A red arrow points from this timer to the 'Maternal Sepsis Overview' tab in the browser's address bar. The main content area shows the following sections:

- Maternal Sepsis Checklist Expanded**  
Last Sepsis Time Zero: 2/22/2022 9:37 AM
- 1 hr - Antibiotics**  
This patient meets criteria for source-directed antibiotics within 1 hour of time zero, which was 2/22/2022 9:37 AM. Please administer antibiotics as ordered or contact Provider if no order exists.  
Sepsis Antibiotic Administrations  
No medication administrations found since 02/21/2022.
- Shock Index Score**  
Shock Index Score: Not Found  
Heart Rate: 112 (02/22 09:05)  
Blood Pressure: 120/80 (02/22 06:15)  
Score will calculate if most recent Heart Rate and Blood Pressure readings were filed in the last 6 hours, within 1 hour of each other.
- Maternal Sepsis Recent Vitals**  
Temp: 101.4 (08.3 °C) ↑  
Pulse: 112 ↑  
Resp: 20  
SpO2: 100
- Maternal Sepsis Recent Lab Results**  
No lab values to display.
- CBC RESULTS (Last 6 days)**  
No results of this type found within the past 6 days.

# SEPSIS OVERVIEW REPORT SUMMARY







## ENGAGING OUR TEAMS

- Continuous education for nurses and physicians
- Sepsis week and celebrations reminding our teams to have a “Sepsis Bias”
- Encourage questions and provide thoughtful responses to objections and optimizations
- Empower nurses to provide indicated and standardized care to improve outcomes
- Use of catch phrase “hit hard and deescalate quickly”
- Badge buddies from AIM for Maternal Warning signs



# BADGE BUDDIES AND AVS SMART PHRASES WITH QR CODES AND AIM URGENT MATERNAL WARNING SIGNS

## URGENT MATERNAL WARNING SIGNS

 <p>Headache that won't go away or gets worse over time</p>	 <p>Dizziness or fainting</p>	 <p>Thoughts about hurting yourself or your baby</p>
 <p>Changes in your vision</p>	 <p>Fever</p>	 <p>Trouble breathing</p>
 <p>Chest pain or fast-beating heart</p>	 <p>Severe belly pain that doesn't go away</p>	 <p>Severe nausea and throwing up (not like morning sickness)</p>
 <p>Baby's movements stopping or slowing</p>	 <p>Vaginal bleeding or fluid leaking during pregnancy</p>	 <p>Vaginal bleeding or fluid leaking after pregnancy</p>
 <p>Swelling, redness, or pain of your leg</p>	 <p>Extreme swelling of your hands or face</p>	 <p>Overwhelming tiredness</p>

**If you have any of these symptoms during or after pregnancy, contact your health care provider and get help right away.**

If you can't reach your provider, go to the emergency room. Remember to say that you're pregnant or have been pregnant within the last year.

Learn more: <https://saferbirth.org/aim-resources/aim-cornerstones/urgent-maternal-warning-signs/>



---

THANK YOU

WE HAVE BEEN HONORED TO MENTOR  
AND BE A PART OF THIS AMAZING TEAM

- Courtney Martin DO, MHA, FACOG
- Daisy Ramos, RN, CNS, MS
- Kim Johns, RN, DNP



# Implementation Achievement

A Serious Infection Screening Tool was created for RNs to complete as part of their assessment every shift & for any change in status

While Epic has MEWT tools to alert bedside staff of qualifying factors, this alert may be missed if data was not validated timely.

This allows bedside RNs to become familiar with serious infection qualifying factors and the bedside assessment red flags.

**Serious Infection Screening Tool**

☰ Qualifying Factors *(check all that apply)*

- Oral temp <36 C (96.8F) or ≥38 C (100.4 F)
- Heart rate >110 bpm
- Respiratory rate > 24 breaths per min
- WBC >15,000/mm3 or <4,000/mm3 or >10% bands
- None

**Bedside Sepsis Evaluation**

Patient has 2 Qualifying Factors	Yes/No
Patient and/or family concerns	Yes/No
Oxygen saturation <92%	Yes/No
Decreased urine output (<30 ml/hr)	Yes/No
Alternative diagnosis	Yes/No
Infection potential source	Yes/No

- (select all that apply)*
- Shivering
  - Feeling cold
  - Confusion or disorientation
  - Shortness of breath
  - Extreme pain or discomfort
  - Clammy or sweaty skin

## Next Steps

- Submit for IT build.
- Bring this to our best practice team to implement on all campuses.



CMQCC Obstetrical Sepsis  
Report Out  
November 2024

# Accomplishments

In collaboration with nursing, physician, informatics and IT teams we created a specialized screening tool for obstetrical sepsis, aimed at enhancing identification and timely treatment.

**OB Sepsis Initial Screen - Step One** - \*Complete upon admission/transfer, at change of shift handover, and with acute change in patient condition\*

*IS IMMUNOSUPPRESSED?		YES/NO
*HAS SUSPECTED/CONFIRMED INFECTION?		YES/NO
In last 12 hours temperature < 36 C or >= 38 C		
In last 12 hours HR > 110 bpm		
*HR > 110 BPM SUSTAINED AT LEAST 15 MINUTES		
In last 12 hours RR > 24 breaths per minute		
In last 12 hours WBC > 15 or < 4 or Bands > 10%		
- TOTAL NUMBER OF POSITIVE SEPSIS SCREEN CRITERIA -		
OB initial sepsis screen		
<b>Interventions for POSITIVE screen</b> (comment required)		

Yes  
 Yes - alternative etiology  
 No  
 ↓ Next Row

Order CBC, CMP, Lactate per nurse protocol  
 In 2nd stage of labor or within 1 hour of delivery order CBC, CMP per nurse protocol  
 Notify MD/Designee for bedside evaluation  
 No labs drawn (patient refusal)  
 Other (comment required)

Any option cascades Step Two

**OB Sepsis Organ Dysfunction Screen - Step Two**

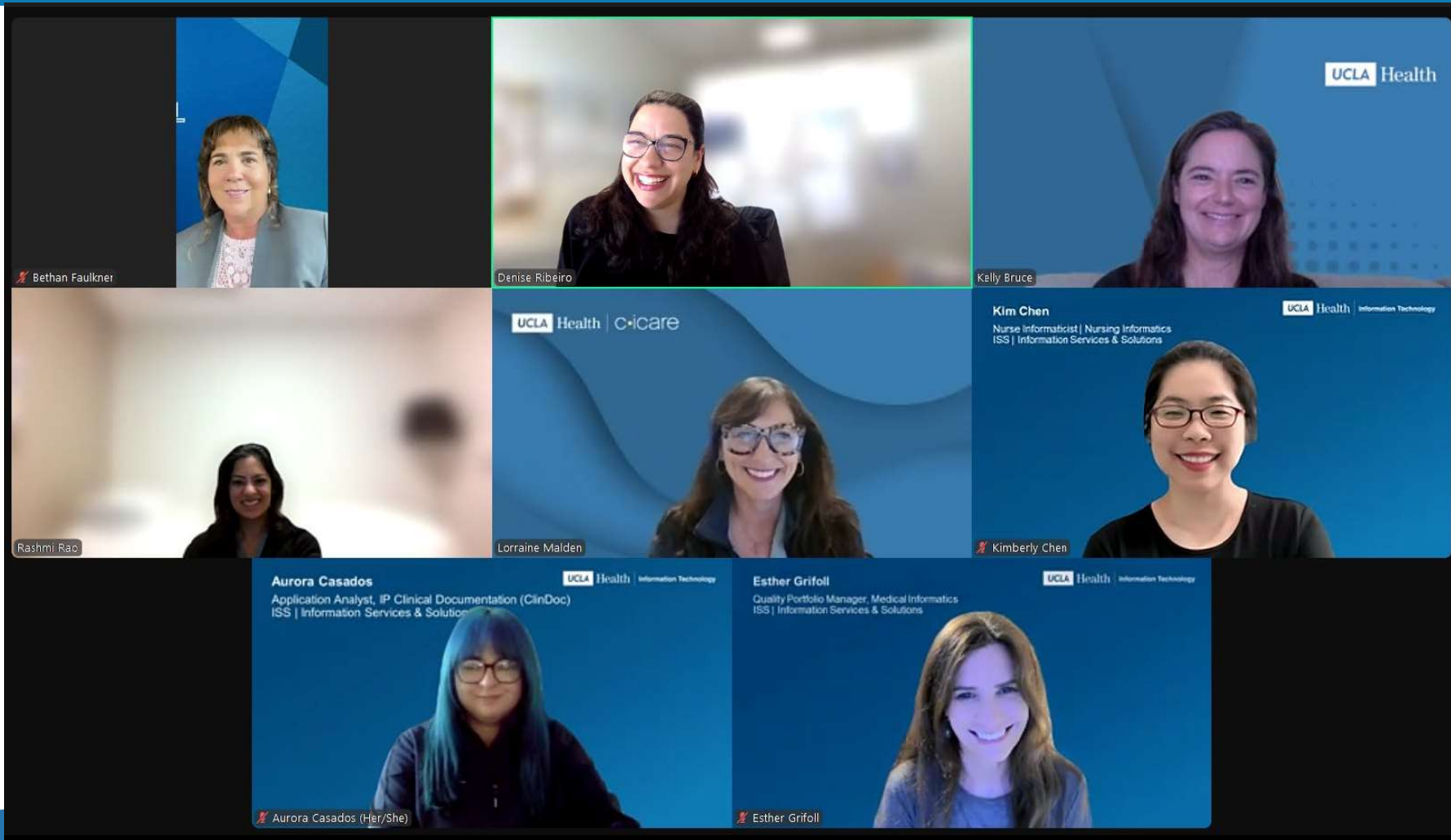
*IN THE LAST 12 HOURS ALTERED MENTAL STATUS (AMS)		YES/NO
*OLIGURIA <0.5mL/kg/hr FOR 2 HOURS		YES/NO
*INCREASED O2 DEMAND?		YES/NO
In last 12 hours O2 SATS < 92%		
In last 12 hours MAP < 65		
*ARE OB SEPSIS LABS RESULTED?		YES/NO
In last 12 hours creatinine >= 1.2		
In last 12 hours bilirubin > 2		
In last 12 hours platelet count < 100K		
In last 12 hours lactate level > 18		
*ORGAN DYSFUNCTION R/T SUSPECTED/CONFIRMED INFECTION		
Is the patient POSITIVE for OB sepsis/septic shock?		
Interventions:		

Yes - any of the abnormal values, AMS, increased O2 demands, or decreased UOP or doubling of creatine related to suspected/confirmed infection  
 No - laboring patient - with only lactate abnormal  
 No - above abnormal values are related to a chronic condition or medication  
 No - no organ dysfunction listed

MD/Designee notified to evaluate for additional labs (coags, blood cultures) and fluid bolus (30mL/kg)  
 (SMH only) Sepsis Response activated  
 Rapid response activated  
 Escalation of care  
 Sepsis response deferred/Other  
 ↓ Next Row



# Our Team



**UCLA** Health

## Washington Hospital CMQCC Sepsis Collaboration

We are most proud of our EMR order set that includes easy, all in-one orders of pertinent actions:

- Labs
- Radiology/EKG
- Antibiotics
- Nursing
- Monitoring type
- IV fluids
- Anti-biotics
- Consult

### Meet our Team

Dr. Calhoun



Jessica Ross, CNS



Stacy Davis, Manager



Joane Manantan, Director



#### OB SEPSIS ORDER SET [762]

##### LAB

Lab Orders - Stat

\*Do not order the following labs is already done in ED

<input type="checkbox"/> CBC with Auto Differential	Routine, STAT, For 1 Occurrences, Blood Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> Prothrombin Time	Routine, STAT, For 1 Occurrences, Plasma Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> PTT	Routine, Lab Collect STAT, For 1 Occurrences, Plasma Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> ABG	STAT, Once Routine (RT) Scheduled, For 1 Occurrences, Blood
<input type="checkbox"/> Comprehensive Metabolic Panel	Routine, STAT, For 1 Occurrences, Plasma Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> Basic Metabolic Panel	Routine, STAT, For 1 Occurrences, Plasma Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> Liver Panel	Routine, STAT, For 1 Occurrences, Plasma Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> Blood Culture Panel	<b>"And" Linked Panel</b>
<input type="checkbox"/> Blood Culture #1	Routine, STAT, For 1 Occurrences, Blood Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> Blood Culture #2	Routine, STAT, For 1 Occurrences Blood, Peripheral, Blood Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:
<input type="checkbox"/> Culture Placenta	Routine, Once, For 1 Occurrences, Placenta Release to patient: Immediate if (answer = Manual release only) Reason for preventing immediate release: Additional details for preventing immediate release:

## Implementation Achievement OB Sepsis Order Set

Collect up-to date evidence on standards  
for detection and treatment of sepsis

Build order set and present in shared  
governance committees

STEP ONE

STEP TWO

STEP THREE

STEP FOUR

Set up interdisciplinary team meeting to  
collaborate and create the EMR order set

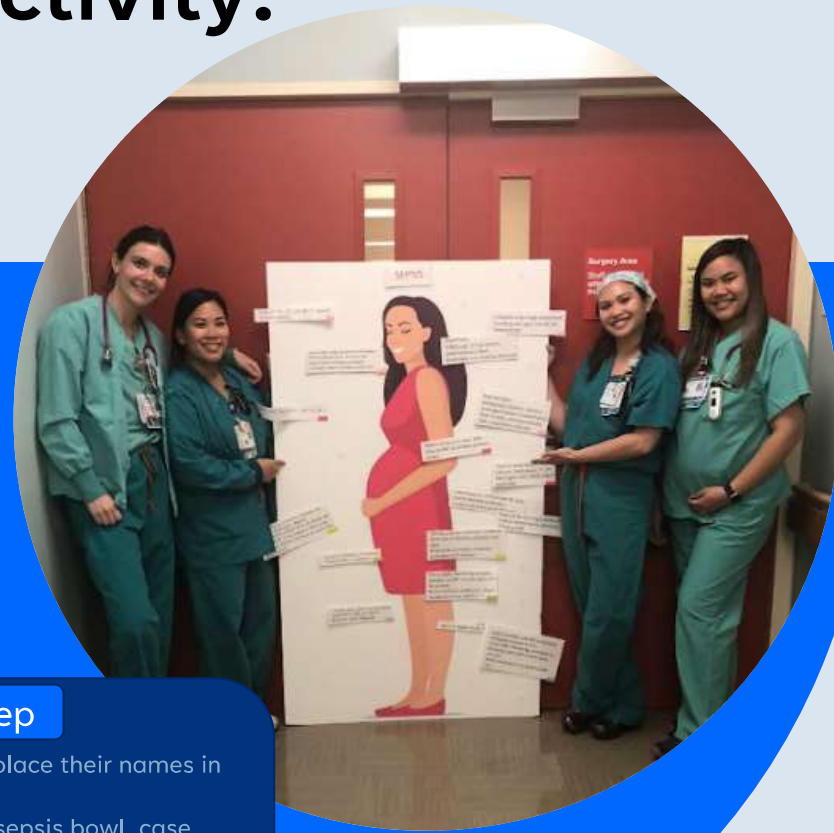
After approval, present education to end-  
users during go-live

# **Staff Education**

# MPMC Sepsis Educational Activity: “Pin the Data”

## Implementation Achievement:

Educational activity created to support comprehensive understanding and systematic use of sepsis algorithm. A patient case study was reviewed as a group. Each staff member was called upon to answer an intervention question based on the patient’s progressive worsening clinical presentation. Utilization of the algorithm was promoted throughout the session. The activity prompted group collaboration and active discussion.



### Key Step

- Provide staff with pre-read didactic material on sepsis 30 days in advance of event
- Create patient sepsis case study

### Key Step

- Design visual board
- Create Q&A based on case study; focus on supporting staff utilization of sepsis algorithm
- Laminate sepsis algorithms for use as cognitive aids
- Enlarge and laminate responses

### Key Step

- Day of event staff place their names in sepsis bowl
- Name pulled from sepsis bowl, case study information provided, question delivered
- Staff answer questions using sepsis algorithm, and laminated multiple choice answers provided
- Correct answer pinned to board



# My Health Online and Call Center

## Sutter Health OB Sepsis Leadership Team



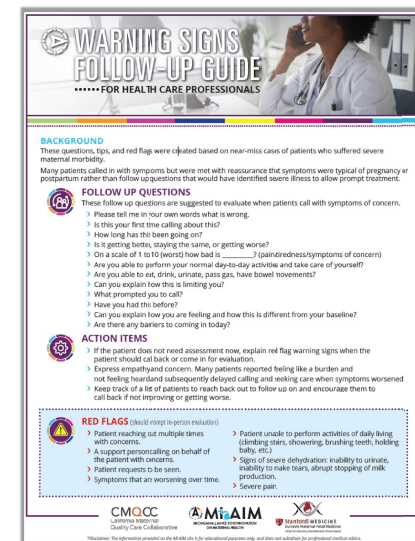
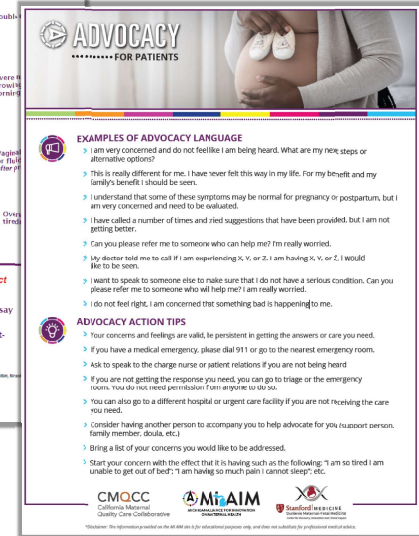
### Background

- Healthy Pregnancy Care Plan is a self-enrolled care companion designed for expectant patients with low-risk pregnancies.
- Timely education throughout the course of a patient's pregnancy, including education tasks regarding baby's growth, healthy eating, exercise, mental health, and preparing for labor and delivery.
- Interactive care plan also allows clinicians to send questionnaires as ad hoc tasks to gather information or if there are other areas of concern.



### Methods

- My Health Online
  - Pregnancy Care Companion
    - 24, 36 weeks and PP day 5
    - Urgent Maternal Warning Signs
    - Advocacy language for patients
- Warning Signs Follow-Up Guide
  - For healthcare professionals (Call Center)



# We are most proud of our collaboration and sepsis education throughout Sutter Roseville Medical Center

## Patients

- Added the CMQCC Maternal Early Warning Sign document to:
  - Hospital admission packets
  - ATU patient bed spaces
  - Maternal tours
  - Physician offices

## FBC Staff

- Our Sepsis Coordinator provided extensive education for our Labor & Delivery Staff Nurses.
  - Presented at summer staff meeting
  - Rounded on all shifts
  - Initiated Sepsis screen audits and provided follow-up to outliers

## RRT Collaboration

- Created OB Sepsis education for incoming Rapid Response Team nurses and partnered with RRT Team Lead to improve the management of the maternal sepsis patient

# **Discharge Education**

# Care Discussion Packet

## Sutter Health OB Sepsis Leadership Team



### Methods

- Clinical Debrief Form
- Post OB Event Care Discussion with Patient and Family
- Postpartum Mental Health Stoplight Tool handout

**Sutter Health** OB Event Debriefing Tool  
**DO NOT SCAN INTO MEDICAL RECORD**  
 Deliver completed form to manager

PATIENT NAME: \_\_\_\_\_  
 MRN: \_\_\_\_\_

State at Beginning  
 "Content discussed during this debrief is confidential and protected under Patient Safety Work Product."

Date/Time of Debriefing: \_\_\_\_\_ Person Completing Form: \_\_\_\_\_  PSR Entered

Manager: \_\_\_\_\_ reviewed debriefing tool and uploaded attachment to PSR

Manager:	OB Provider(s):
Charge RN:	Anesthesiologist(s):
Primary RN:	Neonatal Team:
Other RN(s):	Other:
OBT:	

**SUMMARY OF EVENTS:**

Unexpected Maternal Complication (RAT, Eclamptic Seizure, ICU admission, Sepsis or maternal Code)  PPH

Emergent C/S  Unexpected NB complications/admission to NICU  Shoulder Dystocia

**RECOGNITION:**

Was the emergency recognized early?  Yes  No

Were there early warning signs/patient concerns not addressed?  Yes  No

Were the appropriate team members notified?  Yes  No  Comment: \_\_\_\_\_

**RESPONSE:**

Was the clinical response adequate?  Yes  No  Comment: \_\_\_\_\_

Did the team:

Follow unit policy  Yes  No Follow standard work  Yes  No

Was the appropriate staff present?  Yes  No  Comment: \_\_\_\_\_

Were these available quickly:

Supplies  Yes  No Equipment  Yes  No Medications  Yes  No

**TEAMWORK & COMMUNICATION**

Was there role clarity for decision-making?  Yes  No  Comment: \_\_\_\_\_

Was communication clear?  Yes  No  Comment: \_\_\_\_\_

Did the team communicate respectfully?  Yes  No  Comment: \_\_\_\_\_

**SUMMARY**

What was done well? \_\_\_\_\_

Issues identified: \_\_\_\_\_

Possible solutions: \_\_\_\_\_

**Make a plan to debrief with the patient and family:**

Hand OB provider: "Post OB Event Care Discussion with Patient and Family"

Hand OB the handout titled: "Postpartum Mental Health stoplight tool handout"

During Hospitalization: During postpartum and/or extended NICU stay, invite Social Worker

Post Discharge Visit: Warm handoff between delivery OB team and postdischarge provider

**Staff Resources**

Employee Assistance Program (800) 477-2258

Sutter Health Peer Support: [SHPeerSupport@sutterhealth.org](mailto:SHPeerSupport@sutterhealth.org)

**OB Event Debriefing Tool**  
**DO NOT SCAN INTO MEDICAL RECORD**  
 Deliver completed form to manager

### Post OB Event Care Discussion with Patient and Family

No all trauma within the context of severe maternal events can be prevented, but it can be mitigated through compassion, acknowledgement, and detailed care discussions.

**Present at discussion**

- Family Members \_\_\_\_\_
- Social Worker \_\_\_\_\_

**Step 1: Assess Patient Understanding**

- "Now that you have had a few days to process, can you recap in your own words what you understand about what you experienced?" Do not stop the patient to correct information
- "What are your biggest concerns about what happened?"

**Step 2: Provide an overarching description of the condition**

- Define (in lay terms) the condition that they experienced, including how common
- Briefly review risk factors and in general the diagnosis and treatment approaches

**Step 3: What happened with this specific patient**

- Review in lay terms, how the patient presented and how the diagnosis was made
- What specific consultations and treatments were made
- How the patient responded to the treatments
- If and why they were transferred to a higher level of care and what happened there
- Stress that this was not her fault

**Step 4: Pause for questions**

- "I have just given you a lot of information. What questions/ concerns do you have?"

**Step 5: Review what to expect next**

- Schedule F/U Visit in 1-2 weeks with OB providers
- Warm handoff with post discharge OB provider via epic chat, phone call or in-person
- Ensure Discharge Summary includes all relevant information that post-OB will need
- What emotions and physical side effects to anticipate
- Discharge precautions (both physical and psychological warning signs)
- Emphasize the need for support from providers, family, and others
- Broadly review how this event may affect future health and future pregnancies, if relevant

**Step 6: Resources and**

- Postpartum mental health resources
- Urgent Maternal Referral to Lactation
- Referral to Social Worker
- Other referrals to other departments

### Phrases to Avoid After a Severe Maternal Event and Why:

- **Instead of:** "You almost died, but we were able to save you"
- **Try:** "You were quite sick, but your body is tough and resilient."
- **Why:** No matter how hard the team may have worked, this comment takes away from the patient's strength which will be needed for the patient to recover.
- **Instead of:** "All that matters is a healthy mom and healthy baby."
- **Try:** "I know this wasn't the birth experience you expected. It's okay to have feelings about that."
- **Why:** A healthy mom and baby matter, but so does the patient's experience of their birth.
- **Instead of:** "You are very lucky to be alive" or "Thank God, you're OK."
- **Try:** Provide a brief overview of what happened to the patient and the interventions used.
- **Why:** After a Severe Maternal Event, most patients feel unsafe in the world. They wonder when the next time the rug will be pulled out from underneath of them. When someone on their medical team expresses disbelief at their outcome, it further compounds this lack of safety and dismisses the ongoing trauma.
- **Instead of:** "Everything happens for a reason."
- **Try:** "This wasn't your fault. Here's what we know about why this may have happened to you."
- **Why:** This phrase attempts to put a positive spin on what is often a devastating experience. It is dismissive of the grief and trauma the patient has experienced.
- **Instead of:** Anything that begins with "at least"
- **Try:** "You've been through a lot. You are probably going to feel many complicated and conflicting emotions. That's normal after an event like this."
- **Why:** The term "at least" uses comparison to dismiss a patient's experience. Something can always be worse, but that doesn't mean it's not traumatic.
- **Instead of:** "You should be so grateful."
- **Try:** "I know this might be scary and a lot to process. What questions can I help you answer?"
- **Why:** There is nothing wrong with expressing gratitude, but forced gratitude is unhelpful, particularly after a severe maternal event. The provider's experience of this event often differs greatly from the patient's. For most patients, they walked into the hospital to have a baby and go home, instead they and/or their baby almost lost their lives. They are likely grateful to be alive, but they also need the space and permission to feel sad, angry, and devastated that this happened to them.

Reference: California Maternal Quality Care Collaborative

### Postpartum Mental Health

Many women go through a lot of mental and emotional changes after giving birth. Watch for signs of postpartum blues, depression/anxiety or psychosis.

Take action if you have any signs or symptoms in the yellow or red zones.

	Green Zone	Yellow Zone	Red Zone
<b>In general, how do I feel?</b>	• I feel like myself.	• I don't feel like myself.	• I feel like something is very wrong.
<b>How are my moods and emotions?</b>	• I'm sometimes tearful or worried, but it is manageable.	• I regularly feel: – tearful – worried – overwhelmed – anxious – irritable – angry	• I'm very depressed. I feel like my family would be better off without me. • I'm so emotionally tired that I want to die. • I think that I am going to die. • I'm afraid that I will hurt myself or others. OR • I feel full of never ending energy, the best I have ever felt, I can't slow down.
<b>How is my focus?</b>	• It's sometimes hard to focus and my mind feels unclear.	• My mind is racing, it's hard to slow down. • I have difficulty concentrating.	• I have difficulty concentrating. • I can't focus enough to think clearly, read, explain things or follow directions. • I'm talking so fast that my family or friends can't understand me.
<b>How is my sleep?</b>	• I'm exhausted but I can sleep when I have a chance.	• I can't sleep, even when I have a chance. OR • All I want to do is sleep.	• I haven't slept for days. OR • I can't stay awake and want to sleep all the time.

**Baby Blues.** If this lasts longer than 2-3 weeks, check in with your health care provider.

**Post Partum Depression/Anxiety.** Check in. Call today.

**Postpartum Psychosis. Severe Depression or Suicidal Thoughts. Warning!** See a doctor or go to the emergency room right away.

### Postpartum Mental Health (continued)

Many women go through a lot of mental and emotional changes after giving birth. Watch for signs of postpartum blues, depression/anxiety or psychosis.

Take action if you have any signs or symptoms in the yellow or red zones.

	Green Zone	Yellow Zone	Red Zone
<b>Am I participating in my daily activities like I normally do?</b>	• I can be tearful and emotional, but I still want to be around others.	• I don't really want to: – be around others – do anything – leave the house	• I want to be left alone. • I'm unable to care for myself or my baby/children.
<b>Has my thinking changed?</b>	• My thoughts are grounded in reality. • I feel connected to those around me.	• I worry about "what ifs" and avoid situations that cause anxiety. • I constantly worry about something happening to me, my baby, or someone I love. • I often experience scary thoughts.	• My family is telling me that I am: – hyper – paranoid/suspicious – very irritable – distrustful of those around me • I'm feeling like a stranger to myself and experiencing: – delusions; untrue or strange beliefs often with religious themes. – hallucinations: seeing or hearing things that other people can't see or hear.

**If at any time you or a loved one are concerned about your symptoms or safety, trust your instincts.**

**Go to the nearest emergency room or call 9-1-1 if symptoms are severe.**

**Resources:**

Postpartum Support International [www.postpartum.net](http://www.postpartum.net) or call or text "help" to 800-944-4773

Maternal Mental Health Hotline (24/7 support from a mental health professional) call or text 833-943-5746

Mental Health Crisis and Suicide Hotline call or text 9-8-8



# Implementing Care Discussions Pre-Discharge and Post-Discharge - Sutter Tracy Community Hospital

A Care Discussion workflow was designed for patients experiencing a Severe Maternal Event. We began with defining criteria to determine which patients would have the Care Discussion workflow initiated. Then established the Who? What? Where? When? Why? and How?, allowing us to facilitate a meaningful discussion that would have the most impact for the patient and family experiencing a Severe Maternal Event.

## WHY?

We shared with the team the importance of the Care Discussion to ensure nurses bought into this initiative. The nursing staff was all asked to watch Maile's story from Sepsis.org prior to training on how to facilitate a Care Discussion.

## Who? and When?

We established who will participate in Care Discussions Pre & Post Discharge.  
Pre-discharge ideally includes Patient & support person, RN, OB Doc, and optional pediatrician & Social Worker.  
The Care Discussion will occur - Morning of expected Discharge when OB Doc is rounding  
Post-Discharge will be completed on Post-partum follow up call by Manager or designee.

## What? and How?

The Pre-Discharge Care Discussion tool from CQMCC determines the format of the Care Discussion. The "What to Say and What Not to Say" tool from CQMCC will determine how we facilitate the discussion.



# Deliberate Discharge Teaching on Sepsis

Jennifer Nunes MSN, MHA, RN & Alexia Johnson DNP, RN, CCNS, NEA-BC, CCRN, NPD-BC  
Memorial Hospital Los Banos



## Background

Memorial Hospital Los Banos participated in the California Maternal Quality Care Collaborative on Maternal Sepsis from November 2023 to October 2024. We focused on patient teaching.

## Purpose

Improve discharge teaching of patients at risk for sepsis, to help patients recognize symptoms of sepsis and seek treatment.

## Methods

Staff nurses educated about the importance of reviewing sepsis warning signs with patients in staff meetings and daily huddles in January and February of 2024.

## Results

From March 1-October 30, 2024, 2 of 750 obstetric patients were identified as having sepsis: one following delivery and one returning to hospital after discharge.

## Examples of Education Provided to Patients regarding Sepsis

**ADULT STOPLIGHT SERIES** Signs of infection and sepsis at home

Sepsis happens when an infection triggers a chain reaction in your body that can rapidly lead to failure of major organs and death. Take action if you have signs or symptoms in the yellow or red zones.

Green Zone	Yellow Zone	Red Zone
<b>Keep up the good work.</b> Watch for changes in your health.	<b>Check in.</b> Call today. Name: _____ Phone: _____	<b>Warning!</b> See a doctor right away.
<b>Do I have a fever?</b>	<ul style="list-style-type: none"> <li>No fever in the past 24 hours and not taking medication for a fever.</li> <li>Fever of 100.0-101.4°F.</li> </ul>	<ul style="list-style-type: none"> <li>Fever of 101.5-103.4°F.</li> <li>Call 9-1-1 if:                             <ul style="list-style-type: none"> <li>Fever of 103.5°F or higher.</li> <li>Temperature is below 96.8°F.</li> <li>Teeth are chattering.</li> <li>Skin or nails are pale.</li> </ul> </li> </ul>
<b>Do I feel cold?</b>	<ul style="list-style-type: none"> <li>I don't feel cold.</li> <li>I feel cold and can't get warm.</li> <li>I'm shivering.</li> </ul>	<ul style="list-style-type: none"> <li>I'm too weak to get out of bed.</li> </ul>
<b>How is my energy?</b>	<ul style="list-style-type: none"> <li>My energy level is as usual.</li> </ul>	<ul style="list-style-type: none"> <li>I'm too weak to do most of my usual activities.</li> </ul>
<b>How is my thinking?</b>	<ul style="list-style-type: none"> <li>Thinking is clear.</li> </ul>	<ul style="list-style-type: none"> <li>My caregivers tell me I'm not making sense.</li> </ul>
<b>Are there changes in how I feel after a hospitalization, procedure, infection, or change in wound or I.V. site?</b>	<ul style="list-style-type: none"> <li>I feel well after having pneumonia, a urinary tract infection (UTI) or another infection.</li> <li>I have a wound or I.V. site looks different.</li> <li>I had a wound or I.V. site. It's healing.</li> </ul>	<ul style="list-style-type: none"> <li>I feel very sick.</li> <li>My wound or I.V. site is painful, red, swollen or has pus.</li> <li>I haven't peed for 6 or more hours. My pee is cloudy, dark or smelly.</li> </ul>
<b>How am I feeling?</b>	<ul style="list-style-type: none"> <li>I'm feeling better.</li> <li>Heartbeat is as usual.</li> <li>Breathing is normal for me.</li> </ul>	<ul style="list-style-type: none"> <li>I'm not getting better or feeling worse.</li> <li>Heartbeat is faster than usual.</li> <li>Breathing is more difficult and faster than usual.</li> <li>Home blood pressure is 20 points (top number) lower than usual.</li> <li>Blue skin or nails.</li> </ul>
		<b>Call 9-1-1 if:</b> <ul style="list-style-type: none"> <li>I feel much worse.</li> <li>Very fast heartbeat.</li> <li>Very fast breathing.</li> <li>Home blood pressure is 40 points (top number) lower than usual.</li> <li>Blue skin or nails.</li> </ul>

**SERIE DEL SEMAFORO** Signos de infección y sepsis en casa

La sepsis se produce cuando una infección hace que se dispare en el cuerpo una reacción en cadena que puede llevar rápidamente a la falla de órganos vitales y causar la muerte. Tome medidas si presenta cualquier signo o síntoma en las zonas amarilla o roja.

Zona verde	Zona amarilla	Zona roja
<b>Continúe así.</b> Está atento a cambios en su salud.	<b>Consulte.</b> Llame hoy mismo. Nombre: _____ Teléfono: _____	<b>¡Alerta!</b> Vea un médico de inmediato.
<b>¿Tengo fiebre?</b>	<ul style="list-style-type: none"> <li>No he tenido fiebre en las últimas 24 horas y no estoy tomando medicamentos para la fiebre.</li> <li>Tengo fiebre de 100.0-101.4°F.</li> </ul>	<ul style="list-style-type: none"> <li>Tengo fiebre de 101.5-103.4°F.</li> <li>Debo llamar al 9-1-1 si:                             <ul style="list-style-type: none"> <li>Tengo fiebre de 103.5°F o más.</li> <li>La temperatura está por debajo de los 96.8°F.</li> <li>Me sacuden los dientes.</li> <li>Tengo la piel o las uñas pálidas.</li> </ul> </li> </ul>
<b>¿Tengo frío?</b>	<ul style="list-style-type: none"> <li>No tengo frío.</li> </ul>	<ul style="list-style-type: none"> <li>Tengo frío y no logro entrar en calor.</li> <li>Estoy temblando.</li> </ul>
<b>¿Cómo está mi nivel de energía?</b>	<ul style="list-style-type: none"> <li>Mi nivel de energía es normal.</li> </ul>	<ul style="list-style-type: none"> <li>Me siento demasiado débil para hacer la mayoría de mis actividades habituales.</li> </ul>
<b>¿Cómo está mi mente?</b>	<ul style="list-style-type: none"> <li>Pleno con claridad.</li> </ul>	<ul style="list-style-type: none"> <li>Mis pensamientos están confusos o no siento lo que lo que digo no tiene sentido.</li> <li>Mis cuidadores me dicen que lo que digo no tiene sentido.</li> </ul>
<b>¿Siento algo diferente después de una hospitalización, un procedimiento o una infección, o un cambio en una herida o el lugar donde se colocó la vía intravenosa?</b>	<ul style="list-style-type: none"> <li>Tuve una neumonía, una infección del tracto urinario (ITU), por sus siglas en inglés) u otra infección pero me siento bien.</li> <li>Tuve una herida o se me colocó una vía intravenosa, pero la zona está sanando.</li> </ul>	<ul style="list-style-type: none"> <li>No me siento bien.</li> <li>Tengo mucho frío.</li> <li>La herida o el lugar de la vía intravenosa luce diferente.</li> <li>No he orinado (peed) por al menos 5 horas o más. Siento dolor al orinar (hacer pipí) y la orina está turbia, oscura o tiene mal olor.</li> </ul>
<b>¿Cómo me siento?</b>	<ul style="list-style-type: none"> <li>No siento nada.</li> <li>Mi ritmo cardíaco es normal.</li> <li>Mi respiración es normal.</li> </ul>	<ul style="list-style-type: none"> <li>No estoy mejorando o me siento peor.</li> <li>La herida o el lugar de la vía intravenosa me duele, está rojo, huele mal o tiene pus.</li> <li>No he orinado (peed) por al menos 5 horas o más. Siento dolor al orinar (hacer pipí) y la orina está turbia, oscura o tiene mal olor.</li> <li>Me siento mucho peor.</li> <li>Mi ritmo cardíaco está muy acelerado.</li> <li>Mi respiración está muy acelerada.</li> <li>Al tomarme la presión en casa, mi presión arterial (numero de arriba) está 40 puntos por debajo de lo habitual.</li> <li>Mi piel o mis uñas están azules.</li> </ul>

## Discussion

One postpartum patient returned to hospital, stating that she probably had an infection. She was admitted with sepsis. Staff also appears more cognizant of signs and symptoms of sepsis and identified a patient with early symptoms of sepsis immediately after delivery. Both patients had screened negative for sepsis upon their obstetric admissions.





# OB Sepsis Implementation Achievement Eden Medical Center



Accomplishment during the Sepsis Collaborative:

- Improved patient education related to Sepsis as well as other urgent maternal warning signs.

Why it's important:

- Prior to participation in the collaborative, patient education for sepsis was vague and incomplete. The topic of “sepsis” was often not discussed with patients or family members as routine education.

Key Steps to Implementation:

- RN education during annual skills training (May); allow staff to use & be familiar with the tool
- Presented patient education at OB Department meetings to discuss with patients during prenatal visits
- Make education easily accessible to patients and for staff to use
  - Laminated and posted in all patient rooms
  - Encourage patients to scan QR Code (most patients leave hand-outs in room at discharge)
  - Availability of printed copies in various languages for non-English speaking patients
- Leader rounding- ask patients about sepsis education; re-enforce education
- Document education in EHR

Next Steps:

- OB Sepsis Workgroup partner with hospital Sepsis Workgroup and continue OB Sepsis measures



**Miscellaneous**

Stanford Tri-Valley Video

<https://www.youtube.com/watch?v=6Q8RbMqbJBw&list=PPSV>



Hoag Video

[https://drive.google.com/file/d/1Af8QgyR\\_hzdlpg-fJFDeq61WEHvFQO5/view?usp=sharing](https://drive.google.com/file/d/1Af8QgyR_hzdlpg-fJFDeq61WEHvFQO5/view?usp=sharing)

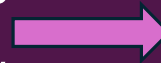
Stanford Medicine  
Children's Health:  
Lucile Packard  
Children's Hospital

## Implementation Achievement: Progress Toward 2-Step Sepsis Screening for Every Obstetric Patient

July 2024:  
RN Training  
completed and OB  
Sepsis Screening  
Pathway  
Implemented & RNs  
are advocating for 2-  
Step Screening



OB Sepsis Pathway  
updated to reflect  
CMQCC  
recommendations  
as "Obstetric  
Serious Infection /  
Sepsis Evaluation"  
Pathway



Collaboration with  
Providers on updated  
Pathway leading to  
improved RN to Provider  
communication and  
compliance with 2-step  
screening

# Sutter Maternity & Surgery Center Labor and Delivery Antibiotics

Jamie Russell, Antimicrobial Stewardship Pharmacist, PharmD, BCPS, Janet Windt, RN, BSN, Katie Millar, CNM, Maxine Karimoto, MD, Lynne Drummond RN, MSN



## Background

ACOG's recommendations direct the pathway for how to manage antibiotics in the perinatal population. Provider variation and lack of standard tools and education creates potential for gaps in the treatment or prophylaxis for perinatal patients.

## Purpose

The purpose is to ensure proper usage of recommended antibiotic administration in the Perinatal population. To create tools guiding practice.

## Methods / Discussion

ACOG recommendations were evaluated and compared with pharmacy literature and protocols to evaluate penicillin allergies. (Figure 1)

The Antimicrobial Stewardship pharmacist developed an algorithm to guide local practice. (Figure 2)

A tip sheet was created to manage Cesarean Section antibiotic recommendations. (Figure 3)

A tip sheet was created to manage patients with intra-amniotic infections. (Figure 4)

Education was provided to the provider group. Laminated tipsheets were placed at each workstation.

## ACOG Recommendations for GBS Prophylaxis and Penicillin Allergies

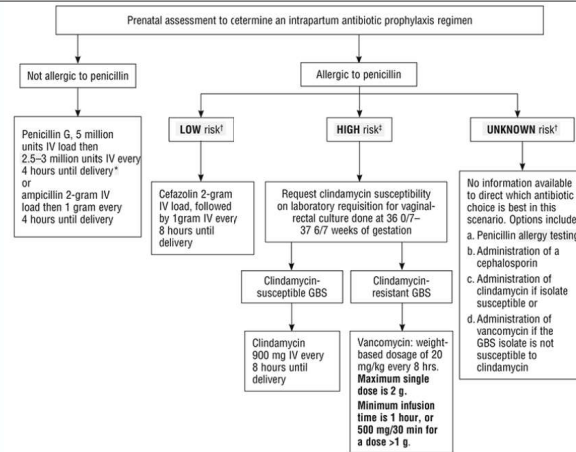


Figure 1

## SMSC Penicillin Allergy Algorithm

The antimicrobial stewardship pharmacist created a penicillin allergy algorithm used by Pharmacy to validate medication selections based on the allergy.

### SMSC Penicillin Allergy Algorithm

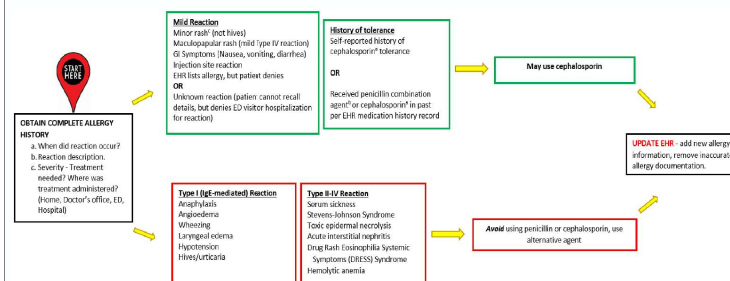


Figure 2

## Tipsheets

### Cesarean Section Antibiotics

Usual Regimen	Patients with Severe Penicillin Allergy	Notes
Cefazolin within 60 minutes of skin incision • <120kg – 2gm • ≥ 120kg – 3gm	Clindamycin 900mg IV PLUS gentamicin 5mg/kg IV	<ul style="list-style-type: none"> <li>Severe allergies to beta-lactams are defined as anaphylaxis, angioedema, bronchospasm or hives within 60 minutes of a dose, or penicillin induced Stevens Johnson Syndrome or Toxic epidermal necrolysis.</li> <li>Without one of these complications from a penicillin, the risk of an allergic reaction to a cephalosporin is about 1-1000 i.e. 0.1%.</li> </ul>
*Pharmacists perform automatic dose-substitution based on weight PLUS single dose of azithromycin IV for patient in labor or with ruptured membranes	PLUS single dose of azithromycin IV for patient in labor or with ruptured membranes	Azithromycin administered after cord clamp
Screen shot of EPIC order set C-section options	MEDICATIONS: ANTIINFECTIVES [342223] Prophylactic Antibiotic Agents (808950) <ul style="list-style-type: none"> <li><input type="radio"/> Patients weighing less than 120 kg (760739) (Selection Required)</li> <li><input type="radio"/> Patients weighing greater than or equal to 120 kg (758166) (Selection Required)</li> <li><input type="radio"/> Beta-Lactam Allergic (clindamycin/gentamicin) (164399) (Selection Required)</li> <li><input type="radio"/> Beta-Lactam and Clindamycin Allergic (vancomycin/gentamicin) (342125) (Selection Required)</li> </ul>	

Figure 3

### Intra-amniotic Infections

Intraamniotic Infection		
Recommended Antibiotics	Mild Penicillin Allergy	Severe Penicillin Allergy
Ampicillin 2gm IV Q8h + Gentamicin 5mg/kg IV Q24h	Cefoxitin 2gm IV Q8h (Not recommended for GBS + patients)	Vancomycin 20mg/kg IV Q8h*** + Gentamicin 5mg/kg IV Q24h
<b>Intraamniotic infection in GBS Positive Patient</b> <ul style="list-style-type: none"> <li>Increase ampicillin dosing to recommended 2gm IV Q8h</li> <li>Add gentamicin 5mg/kg IV Q24h</li> </ul>		
<b>Intraamniotic infection in Patient who Undergoes C-Section</b> <ul style="list-style-type: none"> <li>Add Clindamycin 900mg IV Q8h or Metronidazole 500mg IV Q8h</li> <li>Add Azithromycin 500mg IV (administer after cord clamp)</li> </ul>		
<b>Duration of Antibiotics for Intraamniotic Infection</b> <ul style="list-style-type: none"> <li>If patient delivers vaginally, discontinue antibiotics after the first post delivery dose</li> <li>If cesarean, discontinue after patient is afebrile x 24 hours</li> </ul>		

\*\*\* Currently discussing with order set committee if vancomycin dosing should be 1gm Q12h or 20mg/kg Q8h

Dosing and treatment recommendations taken from Sutter EPIC order sets

Figure 4

## References

- Prevention of group B streptococcal early-onset disease in newborns. ACOG Committee Opinion No. 797. American College of Obstetricians and Gynecologists. Obstet Gynecol 2020;135:e51-72.
- ACOG Practice Bulletin No. 199: Use of Prophylactic Antibiotics in Labor and Delivery

## Learn More

Email: Jamie.Russell@sutterhealth.org

# Maternal Sepsis added into Hospital “Code Sepsis” Policy

## Change

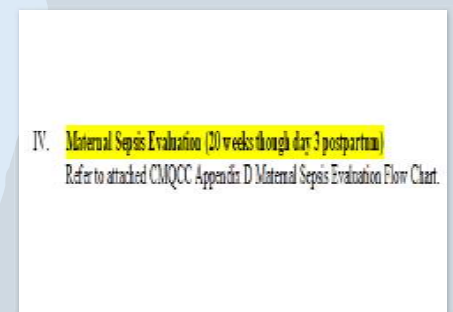
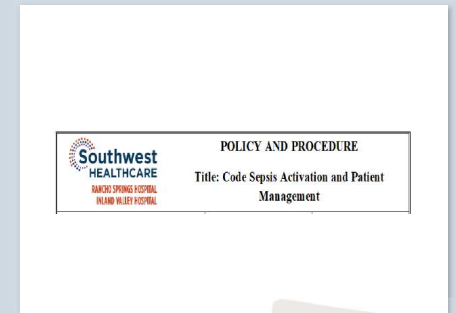
The maternal sepsis information was adopted from the CMQCC bundle. The content was then added directly into the policy. By doing this providers and staff can locate the information in a quick and efficient way to ensure safe and timely treatment begins. This includes appropriate criteria, alterations, and treatment for maternal patients.

## Implementation

Education was the key part of implementing and dissemination of the information. The OB educator added Maternal Sepsis content to all new hire orientation, annual competency events, assigned learning modules, and included in multidisciplinary meetings.

## Success

The change helped to ensure all team members are aware of the importance of knowing the differences between the general population and the maternal population when assessing and identifying sepsis. Utilizing the policy changes, following the algorithm, and using a multidisciplinary team with an OB provider has assisted in early identification, decision making, and has improved the onset of treatment.





# GET THE WORD OUT ABOUT OB SEPSIS

SUTTER AMADOR HOSPITAL OB SEPSIS COLLABORATIVE GROUP

Our team is proud of the work we have done to get the word out about OB Sepsis. With the use of the Urgent Maternal Warning Signs flyer and posters we have provided a visual reminder of what patients should be concerned about and when to seek help in pregnancy and postpartum. One of our goals was to display the UMWS posters in many different venues throughout our community.



## Key Step 1: Disperse

### Brainstorm Poster Locations

- FBC Patient Rooms
- ED Patient Rooms
- SMF Women's Center
- SMF Pediatric Group
- Public Health Amador and Calaveras County
- WIC office Amador and Calaveras County
- First 5 Amador and Calaveras County
- \*Advocacy Language printed on backside of UMWS handouts and Posters in FBC
- \*English & Spanish versions for our population

## Key Step 2: Education

### Identify Roles

1. Patients and their primary support person:  
Share handout, review warning signs and when to seek help. Encourage scanning of QR code and exploring topics. Review use of Advocacy Language
2. Nurses: FBC, ED, OB & Peds Offices  
Share with nurses OB Sepsis Warning Signs and current recommendations. Provide UMWS handout to patients: triage, NST's, admits
3. OB Providers  
Share current OB Sepsis Recommendations and bring awareness to UMWS posters/flyers

## Key Step 3: Follow Up

### How Are We Doing?

- Rounding back with OB office, Community groups, ED to see how it's going, answer questions, provide further assistance.
- Audits of charts: Evaluating utilization of UMWS handout.
- Added "Handouts Given" to our Labor Precautions smart phrase as a reminder for nurses to review handout with patients.
- Keep at it .....  
until it's habit!





**CMQCC**

**Sepsis Collaborative  
Closing Presentation**



# Maternal Sepsis Patient Education

- Maternal Sepsis Education Handout first implemented in 2023
- To be given to all Sepsis diagnosed patients.
- Since Collaborative, decision was made to translate current material to two other languages:
  - Spanish
  - Mandarin



## Maternal Sepsis

### What is Maternal Sepsis?

A life-threatening medical emergency defined as an organ dysfunction resulting from an infection (bacterial, viral, fungal, or parasitic) during pregnancy, childbirth, abortion, miscarriage, or the postpartum period.

### Common Signs and Symptoms

- Fever and chills
- Dizziness
- Lower abdominal pain
- Foul-smelling vaginal discharge
- Vaginal bleeding
- Increased heart rate and/or respiratory rate
- Persistent cough
- Pain/burning on urination or not being able to urinate
- Feelings of discomfort or illness

### Who is at Risk?

Individuals:

- With diabetes
- Who undergo invasive procedures during pregnancy

Sepsis can also result from complications, such as:

- Miscarriages
- Cesarean births
- Prolonged or difficult labor
- Ruptured membranes
- Infection following vaginal birth
- Mastitis
- Viral or bacterial illnesses (e.g., flu, COVID)

### How is Sepsis Diagnosed?

There is no "one test" that can tell if you have maternal sepsis. A provider will evaluate your symptoms, history, and order additional tests.

### How is Sepsis Treated?

- Anti-infective medications
- IV (intravenous) fluids for hydration
- Treat source of infection (e.g., surgery, debridement, dilation and curettage, etc.)

### How is Sepsis Prevented?

- Stay up-to-date on routine vaccinations.
- Avoid sick contacts.
- Practice good hygiene (e.g., handwash for 40-60 seconds with soap and water, bathe regularly, keep wounds clean and dry).
- Contact your healthcare provider if you think you have an infection of any kind.
- Take anti-infectives as prescribed.
- Follow your provider's instructions regarding care of your perineal area or your surgical incision site.

When it comes to sepsis, remember **IT'S ABOUT TIME™**. Watch for:

<b>T</b>	<b>I</b>	<b>M</b>	<b>E</b>
<b>TEMPERATURE</b> Higher or lower than normal	<b>INFECTION</b> May have signs and symptoms of an infection	<b>MENTAL DECLINE</b> Confused, dizzy, difficult to rouse	<b>EXTREMELY ILL</b> Severe pain, discomfort, shortness of breath

If you experience a combination of these symptoms, seek urgent medical care, call 911, or go to the hospital with an advocate. Ask: "Could it be sepsis?"

©2020 Sepsis Alliance sepsis.org



2500 Grant Road | Mountain View, CA 94040 | 650-940-7000  
815 Pollard Road | Los Gatos, CA 94032 | 408-378-6131  
elcaminohealth.org



# San Jose Sepsis Team Achievement

Created an original worksheet/job aid for sepsis management

- Creates efficient, organized charting
- Used for onboarding new hires

**SEPSIS TREATMENT WORKSHEET** Print form to use to be added after the diagnosis of sepsis

Temp  $\geq 100.4$  or  $\leq 96.8$       HR  $> 110$  (sustained for 15 min)      RR  $> 24$       WBC  $> 15k$  or  $< 4k$

**Time Zero:**

**IV BOLUS-DOLM/RB**

- Total IV fluid ordered minus fluid boluses in the last 6H
- Give each liter over 30 min using a pressure bag if needed
- Document in the Fluid Bolus Volume Row
- Insert 2nd IV if hypotensive

**Total IV Boluses in last 6H from Time Zero**  
\*traop fluids count as bolus

**Labs**

- Blood cultures x 2, if not already obtained
- Repeat Lactate q 3 hours until  $< 2$
- UA and Urine Culture
- \*consider chest x-ray depending on suspected source

**Nursing Surveillance**

- Continuous O2 Sat
- BP q 30 min with MAP until lactate  $< 2$  then q 2H
- Temp q 4H
- Strict I&O. Monitor urine output q 4H
- Assess mental status

**Notify AMM/RMC**

**Consider HNT consult**

**Consider consulting MFM or H&S**

**NIHC Guidelines for transfer to ICU**

- SBP consistently  $(\geq 70 \text{ mmHg}) < 85$  or MAP  $< 65$  (after fluid resuscitation is complete)
- Need for vasopressors
- Persistent Hypoxia: Unable to maintain  $spO_2 > 92\%$  RA
- Altered Mental Status: confused, combative, disoriented.

**Definition of Sepsis Stable**

Below criteria must be met to transfer patient to lower level of care

- O2 sat over 92% RA
- Lab values improving
- Lactate below 2 and not rising
- BP consistently above 90/50 or MAP above 65 x 2 hours
- Temperature below 100.4 and above 96.8
- Heart rate below 110
- Respiratory rate below 24
- Urine output above 120ml/4hr
- No changes in LOC

**Lactic Acid**

Repeat Q3H until  $< 2$

Time Zero Result: \_\_\_\_\_

3H from Time Zero Result: \_\_\_\_\_

6H from Time Zero Result: \_\_\_\_\_

**Sepsis Surveillance Frequency**

Initial Sign	Frequency	Resolution	Frequency	Resolution
WBC	Q 2H	Q 2H until $< 15k$	Q 2H until $< 4k$	Q 2H until $< 15k$
Temp	Q 2H	Q 2H until $< 100.4$	Q 2H until $> 96.8$	Q 2H until $< 100.4$
HR	Q 2H	Q 2H until $< 110$	Q 2H until $> 110$	Q 2H until $< 110$
RR	Q 2H	Q 2H until $< 24$	Q 2H until $> 24$	Q 2H until $< 24$
MAP	Q 2H	Q 2H until $> 65$	Q 2H until $< 65$	Q 2H until $> 65$
SpO2	Q 2H	Q 2H until $> 92\%$	Q 2H until $< 92\%$	Q 2H until $> 92\%$
LOC	Q 2H	Q 2H until $< 4$	Q 2H until $> 4$	Q 2H until $< 4$

**24 HOUR TOTALS** IN: \_\_\_\_\_ OUT: \_\_\_\_\_

**24 HOUR TOTALS** IN: \_\_\_\_\_ OUT: \_\_\_\_\_

**24 HOUR TOTALS** IN: \_\_\_\_\_ OUT: \_\_\_\_\_

**NOTES**



# San Jose Sepsis Team Achievement

**MATERNAL SEPSIS PROTOCOLS**

**1 SCREEN**

If  $\geq 2$  SIRS → do further evaluation & notify ANM.

Temp	HR	RR	WBC	Bands
$\geq 100.4$ or $\leq 96.8$	$> 110$ (for 15 min)	$> 24$	$> 15k$ or $< 4k$	$> 10\%$

\* Last CBC  $> 24$  hrs? → send repeat CBC → consider adding other sepsis evaluation labs.

**2 EVALUATE**

**Interventions**

- 1-liter LR bolus over 60 min. or per orders
- Suspected Infection → start antibiotics per orders

**Labs\***

- CBC w/diff
- Chem 7
- Bill total
- PT/INR/PTT
- Lactic acid

**Monitor**

- O2: continuous
- BP: q30 min with MAP
- Temp: q30 min
- Assess mental status
- Urinary Output: q1 hrs

\*Call x7227-ask for immediate "stat sepsis" labs

**3 DIAGNOSE**

If  $\geq 1$  OD\* → may diagnose sepsis  
\* Organ Dysfunction

Pit	$< 100,000$
INR	$> 1.5$
PTT	$> 60$ sec
Bill	$> 2$ mg/dl
Lactic Acid	$> 2$ mmol/L (in absence of labor)
SBP	$< 85$ mmHg or $\downarrow 40$ mmHg from BL (after fluid bolus)
MAP	$< 65$
Creat.	$\geq 1.2$ mg/dL or doubling of creatinine or u/o $< 0.5$ mL/x 2 hrs
Support	New need for mechanic ventilation
LOC	Agitated, Confused or Unresponsive

**4 TREATMENT**

**FLUIDS:** Target = 30mL/Kg fluid bolus\* (subtract any boluses in last 6 hrs). Rate of 1L /30 min. -or per orders. Caution with patients at risk for fluid overload, ie PEC.

**ANTIBIOTICS:** Source directed antibiotics, if not already done or broad spectrum if source unknown

**LABS:**

- Blood cultures x2,
- Lactate q3 hrs until  $< 2$  mmol/L,
- UA and urine culture,
- Possible chest X Ray?

**MONITOR:**

- Monitor u/o q1 hr
- See "Sepsis Surveillance Guidelines"

**CONSULTS:** Consider consult with MFM or HBS or RRT- Help with POC, bouts intermittent hypotension, fluid resuscitation consultation, antibiotic choice per suspected sources, decision to transfer.

**SEPSIS SURVEILLANCE GUIDELINES**

	Prior to Delivery	PP 0-2 hrs	PP $> 2$ hr & NOT stable	PP $> 2$ hr & stable
VS	q30 min	q30 min x4	q1 hr	q2 hr x 4 then q4
Temp	q1 hr	q1 hr	q1 hr	q2 hr x 4 then q4
O2	cont	cont	cont	q2 hr x 4 then q4
LOC				Q 2 hrs unless altered

**Transfer to LOWER level of care ("Sepsis Stable"):**

- BP consistently  $> 90/50$
- MAP  $> 65$  x 2 hrs
- HR  $< 110$
- RR  $< 24$
- O2  $> 92\%$  RA
- LOC no changes
- Lab values improving
- Lactate  $< 2$  and not rising
- Temp  $< 100.4$  and  $> 96.8$
- U/O  $> 120$  ml / 4 hr

**Transfer to HIGHER level of care (ICU):**

- SBP consistently  $< 85$
- MAP  $< 65$  (After fluid)
- Need for vasopressors
- O2  $< 92\%$  RA
- LOC: confused, combative, disoriented

Created an original badge buddy for sepsis management