Resident Information Packet: SEPSIS

Definitions:

SIRS:
Temp < 36 or > 38
HR > 90
RR > 20
WBC > 12k, < 4k, bands > 10

Sepsis
Two SIRS criteria + suspected or confirmed infection

Severe sepsis
Sepsis-induced tissue hypoperfusion or organ dysfunction (any of the following thought to be due to infection):
Sepsis-induced hypotension
Lactate above upper limits laboratory normal **(> 2.0)**
Cr > 2
Bili > 2
Platelets < 100k
INR > 1.5
Acute lung injury
Urine output < 0.5 ml/kg/hr for more than 2 hours despite adequate fluids

Septic shock
SBP < 90 and/or MAP < 65 despite 30 ml/kg fluid bolus

LBM Sepsis Workflow:

Sepsis Combo:
If you have a patient with 2 or more SIRS criteria and suspect an infection, we are sending a screening lactate and blood cultures. This will usually already be ordered in triage by the triage physician. The Sepsis RN will also be following the patient and monitoring lactate results and reassessing the patient. Please follow the algorithms posted in the doctor's pod. We have attached a copy for you.

- If the lactate results at 2.0 or less then it is at the discretion of the treating physician whether to send another lactate.

- If the lactate results between 2.0- 3.9, we are asking that you give at least 1 liter NS bolus and send a *repeat lactate within 3 hours* after bolus and start broad spectrum antibiotics within 1 hour.

- If Lactate is 4 or greater OR patient remains hypotensive after a 30 ml/kg bolus, this is now a CODE SEPSIS. Please use the "BPT ED Sepsis first 6 hours" order set (ask your attending) and see below.

CODE SEPSIS
Lactate ≥ 4 or SBP < 90 despite 30 ml/kg bolus: **Recognition time**

If the above criteria are met, OPEN "BPT Sepsis ED First 6 hour order set"!!! This is very important! You **MUST** open this order set. We are being tracked on the use of this order set. It will guide you so that we meet all components of the sepsis bundle currently required by MemorialCare.

- Go to "order entry"
- Click on "ordersets"
- Type in "sepsis"
- Click ED first 6 hr order set

There are prechecked orders, so please review orders before signing so you don't double order.

Please discuss the use of the BPT sepsis first 6 hours order set with your attending on all patients you see with suspected infection! They are VERY familiar with what is expected of them and may assume (incorrectly) that you too are aware and using the order set.

Antibiotics must be **started** within 1 hr of recognition. Sepsis RN will notify you of an elevated lactate. Please order antibiotics as soon as possible.

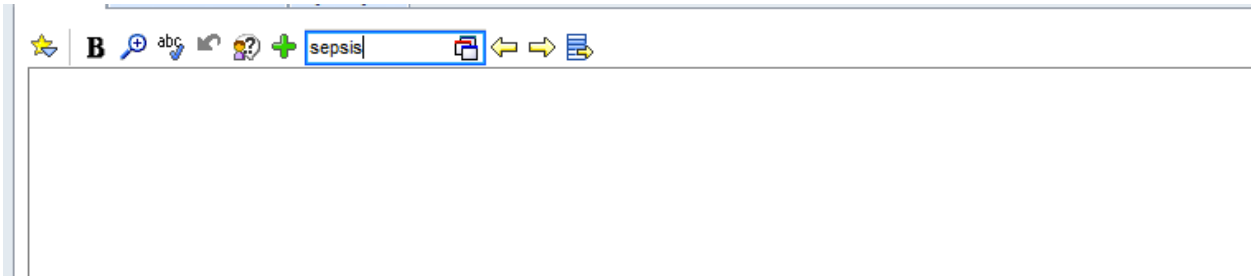
Reassessment:

For any sepsis patient with a lactate ≥ 4 or refractory hypotension after a 30 ml/kg bolus, there **MUST** be a reassessment documented in the chart within 6 hours of elevated lactate or hypotension.

You may choose to do a *focused physical exam* OR any 2 of the 4 *alternative methods* listed below:

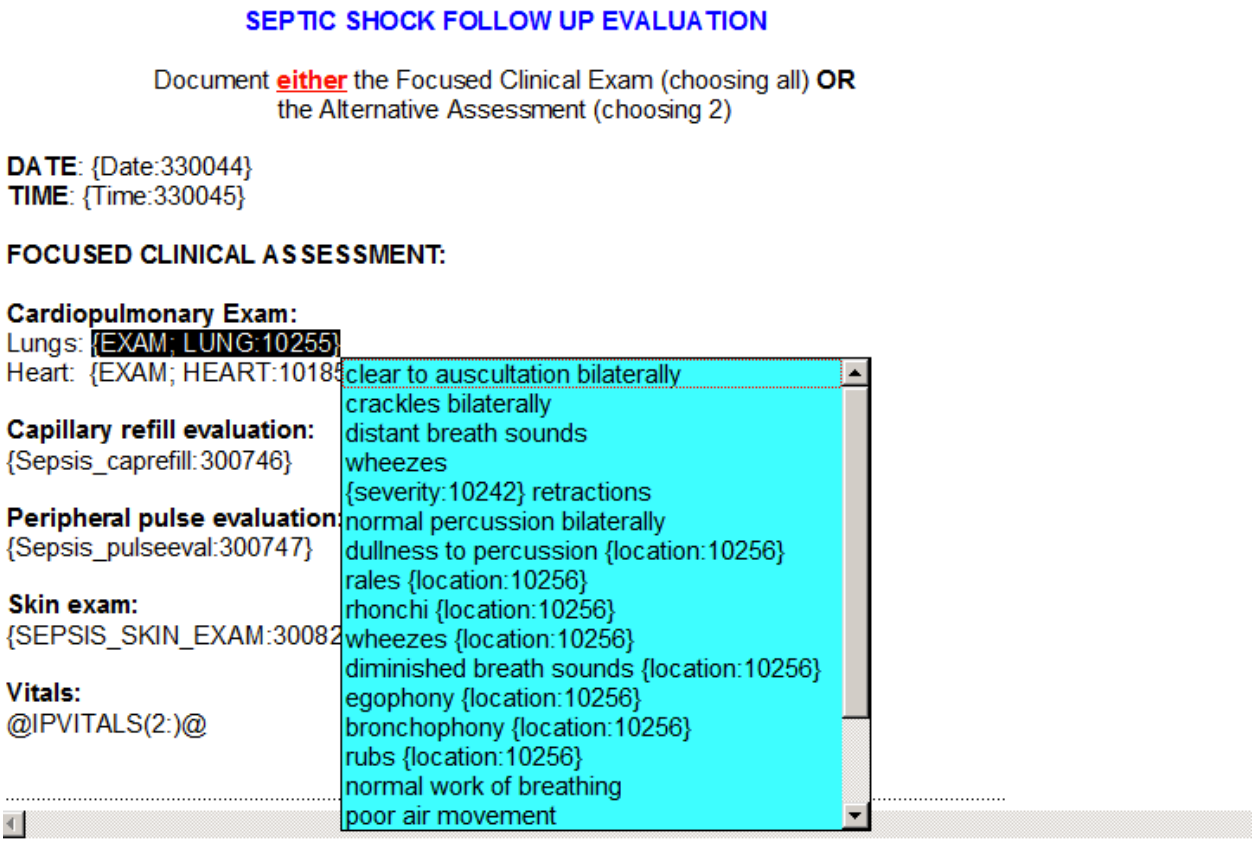
- CVP
- ScvO2
- US IVC
- Passive leg or fluid challenge, (Use NICOM)

There is smart text you may use. At the top of your note, locate the smart text box and type in sepsis.



Choose "Sepsis follow up note….."

Then you just need to F2 through the hard stops.



You may also use this note to document any 2 of the 4 alternative methods to evaluate fluid status.

SEPTIC SHOCK FOLLOW UP EVALUATION

Document **either** the Focused Clinical Exam (choosing all) **OR**
the Alternative Assessment (choosing 2)

DATE: {Date:330044}
TIME: {Time:330045}

ALTERNATIVE ASSESSMENT (MUST SELECT AT LEAST 2):

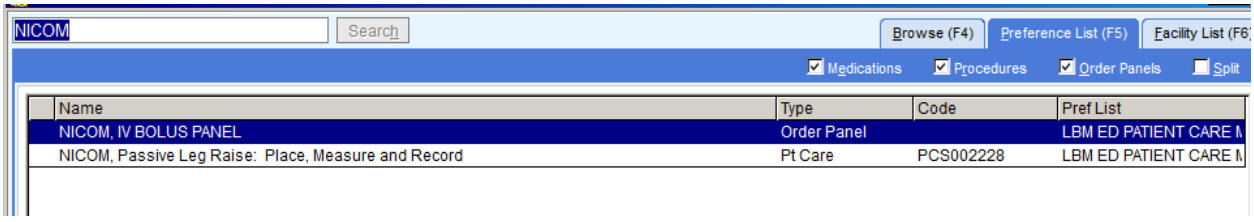
{Alternative Assessment:300641:p}

{Passive leg or fluid challenge:TXT,300644}
{Bedside cardiovascular US:TXT,300645}
{Central Venous Pressure Measurement:TXT,300643}
{Central Venous Pressure Oxygen Measurement:TXT,300642}

NICOM:

The Non-invasive cardiac output monitor (NICOM) is a non-invasive device that uses a proprietary technology called Bioreactance that has been validated to be accurate in determining stroke volume and cardiac output when compared to pulmonary artery catheter and carotid Doppler ultrasound. Fluid responsiveness can be determined by using either a passive leg raise protocol or a small fluid bolus challenge protocol. Stroke volume index (SVI) is measured and if the change is greater than 10% it suggests the patient is fluid responsive. If the change in SVI is less than 10%, then the patient is not considered to be fluid responsive.

You may place the order by typing in "NICOM" and then choosing your protocol. Generally, we have been using the fluid bolus protocol. The nurse will perform the measurements and report the results to you when complete. Please use the smart text follow-up note (as above) to document the results.



Documentation:

Please document severe sepsis in your final impression if patient meets criteria. See definitions above. Please also document in your medical decision-making why you did not give adequate fluids for any reason (ie. Patient refused), or if patient refused central line or any other aggressive treatment.

Your final impression might look like this:

1. Urinary tract infection or pneumonia
2. Severe sepsis secondary to #1
3. Acute kidney injury (this is the organ dysfunction that makes the diagnosis)
4. Septic shock