Sepsis Management HMH/HMSJ/HMSL [1414]

IV / Central Line Access - Hemodynamics Monitoring

IV / Central Line Access

[ ] Initiate and maintain IV	
[ ] Ensure / Initiate and maintain IV access	Routine, Once As needed immediately insert 2 large bore (at least 20 gauge) peripheral IV lines or call attending MD for STAT central line, intraosseus (IO) or other access.
[ ] sodium chloride 0.9 % flush	10 mL, intravenous, every 12 hours scheduled
[ ] sodium chloride 0.9 % flush	10 mL, intravenous, PRN, line care

Hemodynamic Monitoring

If patient has IJ or Subclavian Central Venous Line

[ ] Hemodynamic Monitoring - CVP	Routine, Every hour Measure: CVP

Nursing

Vital Signs

[ ] Vital signs - T/P/R/BP	Routine, Every hour For 3 Hours Monitor every 1 hour for 3 hours, or more frequently as indicated by clinical condition and assessment findings, then re-evaluate frequency of vitals assessment.
[ ] Pulse oximetry	Routine, Daily Current FIO2 or Room Air: Place Sp02 monitor (near infrared spectroscopy)

Notify

[ ] Notify Provider/Sepsis Team:	Routine, Until discontinued, Starting S, -for MAP LESS than 65 or GREATER than 80 -for heart rate LESS than 60 or GREATER than 120 -for urine output LESS than 30 mL/hour -immediately for any acute changes in patient condition (mental status, vital signs)

Initial Management of Suspected Sepsis

Blood Cultures

[ ] Blood culture x 2	**"And" Linked Panel**
[ ] Blood Culture (Aerobic & Anaerobic)	Once, Blood Collect STAT before antibiotics given. Blood cultures should be ordered x2, with each set drawn from a different peripheral site. If unable to draw both sets from a peripheral site, one set may be drawn from a central line; an IV line should NEVER be used.
[ ] Blood Culture (Aerobic & Anaerobic)	Once, Blood Collect STAT before antibiotics given. Blood cultures should be ordered x2, with each set drawn from a different peripheral site. If unable to draw both sets from a peripheral site, one set may be drawn from a central line; an IV line should NEVER be used.

Lactic Acid - STAT and repeat 2 times every 3 hours

[ ] Lactic acid level, SEPSIS - Now and repeat 2x every 3 hours	Now and repeat 2x every 3 hours For 3 Occurrences STAT - SPECIMEN MUST BE DELIVERED IMMEDIATELY TO THE LABORATORY. Repeat lactic acid in 3 hours.

Crystalloids for Fluid Resuscitation for hypotension, lactic acid greater than 2.0, or any one sign or symptom of acute organ dysfunction) (Single Response) (Selection Required)

Is your patient obese? (BMI GREATER than 30)

( ) Yes (Single Response) (Selection Required)

Given your response of "Yes", you have the option to dose IV fluids using Ideal Body Weight (IBW).

( ) Calculate dose using Ideal Body Weight (IBW) (Single Response)

( ) lactated ringers IV bolus + Vital Signs OR infusion - For Obese Patients (Single Response)

( ) lactated ringers IV bolus + Vitals Every 15 Minutes x 4 Hours - For Obese Patients **"And" Linked Panel**

[ ] lactated ringers bolus	30 mL/kg, intravenous, once, For 1 Doses Reassess patient after IV fluid bolus given. If target not met (MAP 65 to 70 mmHg or SBP GREATER than 90 mmHg), notify ordering provider prior to administration of second bolus. Doses start immediately. Notify provider immediately upon completion of fluid bolus administration. Provider Response: YES, I choose to use the Ideal Body Weight (IBW), BMI GREATER than 30
[ ] Sepsis vital signs - T/P/R/BP	STAT, Every 15 min For 4 Hours

( ) lactated ringers IV infusion - For Obese Patients **"And" Linked Panel**

[ ] lactated ringer's infusion	126 mL/hr, intravenous, continuous Reassess patient after 1 L of IV fluid given. If target not met (MAP 65 to 70 mmHg or SBP GREATER than 90 mmHg), notify ordering provider prior to administration of additional fluids. Doses start immediately. Notify provider immediately upon completion of administration of 1 L of fluid.

( ) sodium chloride 0.9% bolus + Vital Signs OR infusion - For Obese Patients (Single Response)

( ) sodium chloride 0.9% bolus + Vitals Every 15 Minutes x 4 Hours - For Obese Patients **"And" Linked Panel**

[ ] sodium chloride 0.9 % bolus	30 mL/kg, intravenous, once, For 1 Doses Reassess patient after IV fluid bolus given. If target not met (MAP 65 to 70 mmHg or SBP GREATER than 90 mmHg), notify ordering provider prior to administration of second bolus. Doses start immediately. Notify provider immediately upon completion of fluid bolus administration. Provider Response: YES, I choose to use the Ideal Body Weight (IBW), BMI GREATER than 30
[ ] Sepsis vital signs - T/P/R/BP	STAT, Every 15 min For 4 Hours

( ) sodium chloride 0.9% infusion - For Obese Patients **"And" Linked Panel**

[ ] sodium chloride 0.9% infusion	126 mL/hr, intravenous, continuous Reassess patient after 1 L of IV fluid given. If target not met (MAP 65 to 70 mmHg or SBP GREATER than 90 mmHg), notify ordering provider prior to administration of additional fluids. Doses start immediately. Notify provider immediately upon completion of administration of 1 L of fluid.

( ) Do NOT calculate dose using Ideal Body Weight (IBW) (Single Response)

( ) lactated ringers IV bolus + Vital Signs OR infusion (Single Response)

( ) lactated ringers IV bolus + Vitals Every 15 Minutes x 4 Hours — **"And" Linked Panel**

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( ) Patient does not have initial hypotension, severe sepsis, nor septic shock at this time. No additional crystalloid IV fluid resuscitation bolus indicated at this time (Single Response)

( ) Patient does not have initial hypotension, severe sepsis, nor septic shock at this time. No additional crystalloid IV fluid resuscitation bolus indicated at this time	Routine, Once

( ) No (Single Response)

( ) lactated ringers IV bolus + Vital Signs OR infusion (Single Response)

( ) lactated ringers IV bolus + Vitals Every 15 Minutes x 4 Hours — **"And" Linked Panel**

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Antibiotics for Community-Acquired Pneumonia (Single Response)

** if not already started within the last 24 hours **

Recommended: A beta-lactam plus either azithromycin or a fluoroquinolone.

( ) Recommendation: Ceftriaxone 1 gram plus Azithromycin 500 mg		**"And" Linked Panel**
[ ] cefTRIAXone (ROCEPHIN) IV	1 g, intravenous, for 30 Minutes, every 24 hours Classification: Broad Spectrum Antibiotic When multiple antimicrobial agents are ordered, you may administer these immediately at the SAME TIME via different IV sites. Do not wait for the first antibiotic to infuse. If agents are Y-site compatible, they may be administered per Y-site protocols. IF the ordered agents are NOT Y site compatible, then administer the Broad-spectrum antibiotic first. Refer to available Y site compatibility information and determination of broad-spectrum antibiotic selection chart. Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis Type of Therapy: New Anti-Infective Order Indication: Sepsis	

[ ]	azithromycin (ZITHROMAX) IV	500 mg, intravenous, for 60 Minutes, every 24 hours Classification: Narrow Spectrum Antibiotic When multiple antimicrobial agents are ordered, you may administer these immediately at the SAME TIME via different IV sites. Do not wait for the first antibiotic to infuse. If agents are Y-site compatible, they may be administered per Y-site protocols. IF the ordered agents are NOT Y site compatible, then administer the Broad-spectrum antibiotic first. Refer to available Y site compatibility information and determination of broad-spectrum antibiotic selection chart. Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis Type of Therapy: New Anti-Infective Order Indication: Sepsis

( ) Alternative: Ceftriaxone 1 gram plus Levofloxacin 750 mg **"And" Linked Panel**

[ ]	cefTRIAXone (ROCEPHIN) IV	1 g, intravenous, for 30 Minutes, every 24 hours Classification: Broad Spectrum Antibiotic When multiple antimicrobial agents are ordered, you may administer these immediately at the SAME TIME via different IV sites. Do not wait for the first antibiotic to infuse. If agents are Y-site compatible, they may be administered per Y-site protocols. IF the ordered agents are NOT Y site compatible, then administer the Broad-spectrum antibiotic first. Refer to available Y site compatibility information and determination of broad-spectrum antibiotic selection chart. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis
[ ]	levofloxacin (LEVAQUIN) IV	750 mg, intravenous, every 24 hours Classification: Narrow Spectrum Antibiotic When multiple antimicrobial agents are ordered, you may administer these immediately at the SAME TIME via different IV sites. Do not wait for the first antibiotic to infuse. If agents are Y-site compatible, they may be administered per Y-site protocols. IF the ordered agents are NOT Y site compatible, then administer the Broad-spectrum antibiotic first. Refer to available Y site compatibility information and determination of broad-spectrum antibiotic selection chart. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis Indication: Sepsis

Antibiotics for Other Suspected Sources of Infection

** if not already started within the last 24 hours **
(cefepime OR meropenem OR piperacillin/tazobactam)
AND
(vancomycin OR linezolid for patients allergic to vancomycin)

OPTIONAL: (tobramycin OR fluconazole OR metronidazole)

[ ] cefepime OR meropenem OR piperacillin/tazobactam
(Single Response)

Select ONE of the following:

( ) cefepime (MAXIPIME) 2 g IVPB	2 g, intravenous, every 8 hours First dose STAT - within an hour - after blood and other cultures obtained. If severe PENICILLIN allergy, substitute aztreonam for cefepime. Infuse over 30 minutes. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis
( ) meropenem (MERREM) 2 g IVPB	2 g, intravenous, every 8 hours First dose STAT - within an hour - after blood and other cultures obtained. Infuse over 30 minutes. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis
( ) piperacillin-tazobactam (ZOSYN) 4.5 g IVPB	4.5 g, intravenous, every 6 hours First dose STAT - within an hour - after blood and other cultures obtained. Infuse over 30 minutes. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis

[ ] vancomycin (VANCOCIN) OR linezolid (ZYVOX) (Single Response)

** only choose linezolid (ZYVOX) for vancomycin allergy **

( ) vancomycin (VANCOCIN) IV	15 mg/kg, intravenous, Starting H+30 Minutes First dose STAT - within an hour - after blood and other cultures obtained. FOR SEVERE vancomycin allergy, substitute linezolid below. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis
( ) linezolid (ZYVOX) IV	600 mg, intravenous, for 60 Minutes, every 12 hours First dose STAT after blood and other cultures obtained. For patients allergic to VANCOMYCIN. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis

[ ] optional antimicrobial therapies

[ ] tobramycin (NEBCIN) 7 mg/kg IVPB	7 mg/kg, intravenous, for 30 Minutes, once, For 1 Doses First dose STAT after blood and other cultures obtained. Pharmacist to dose 7 mg/kg based on IDEAL BODY WEIGHT. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis
[ ] fluconazole (DIFLUCAN) 400 mg IVPB	400 mg, intravenous, for 60 Minutes, every 24 hours First dose STAT after blood and other cultures obtained. Type of Therapy: New Anti-Infective Order Reason for Therapy: Fungal Infection Suspected Indication: Other Specify: Sepsis Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis
[ ] metroNIDAZOLE (FLAGYL) 500 mg IVPB	500 mg, intravenous, every 6 hours First dose STAT after blood and other cultures obtained. Infuse over 30 minutes. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis

Antibiotics for Severe Beta Lactam Allergy Patients (administer in combination with Vancomycin)

** if not already started within the last 24 hours **

[ ]	aztreonam (AZACTAM) AND vancomycin (VANCOCIN)	**"And" Linked Panel**
[ ]	aztreonam (AZACTAM) 2 g IVPB	2 g, intravenous, every 8 hours Infuse over 30 minutes. First dose STAT after blood and other cultures obtained. Substitute for severe BETA LACTAM allergy. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis
[ ]	vancomycin (VANCOCIN) 15 mg/kg IVPB	15 mg/kg, intravenous, every 12 hours Infuse over 2 hours. First dose STAT - within an hour - after blood and other cultures obtained. FOR SEVERE vancomycin allergy, substitute linezolid. Type of Therapy: New Anti-Infective Order Reason for Therapy: Bacterial Infection Suspected Indication: Sepsis

Additional Management of Sepsis

Colloid / Albumin (for patients not responding to initial fluid resuscitation with crystalloids)

[ ]	albumin human 5 % infusion	25 g, intravenous, once, For 1 Doses Administer 500 mL intravenous once for patients not responding to initialfluid resuscitation with crystalloids. Indication:

Vasopressor Therapy (if unresponsive to initial fluid bolus) (Single Response)

** if unresponsive to initial fluid bolus **

( )	norEPInephrine (LEVOPHED) infusion	4-30 mcg/min, intravenous, titrated Initiate norepinephrine infusion at 4 mcg/min. Titrate to keep MAP between 65 mmHg to 70 mmHg }. Titrate by 2 mcg/minute every 5 minutes. Call MD if mean arterial pressure is LESS than 65 mmHg and rate is 30 mcg/min.
( )	EPINEPHrine (ADRENALIN) infusion	2-30 mcg/min, intravenous, titrated Titrate by 2 micrograms per minute every 5 minutes for mean arterial pressure 65-70 mmHg. Call MD if mean arterial pressure is LESS than 65 mmHg and rate is 30 mcg/min.

Inotropic Therapy

[ ]	DOButamine (DOBUTREX) infusion	0.5-20 mcg/kg/min, intravenous, titrated Titrate by 2 mcg/kg/min every 10 minutes for mean arterial pressure 65-70 mmHg. Call MD if mean arterial pressure is LESS than 65 mmHg and rate is 10 mcg/kg/min.

Steroids

Per 2012 guidelines, steroid therapy is only recommended in the case of hypotension which is refractory to both fluids and vasopressor therapy. Stress dose steroids should also be considered for patients with a history of recent and/or chronic steroid use

[ ]	hydrocortisone sodium succinate (Solu-CORTEF) injection	50 mg, intravenous, every 6 hours For patients with shock refractory to fluids and vasopressors.

Labs

Laboratory - STAT

[ ]	Arterial blood gas	STAT For 1 Occurrences
[ ]	Venous blood gas	STAT For 1 Occurrences
[ ]	Comprehensive metabolic panel	STAT For 1 Occurrences
[ ]	Prothrombin time with INR	STAT For 1 Occurrences
[ ]	Partial thromboplastin time	STAT For 1 Occurrences

[ ]	Basic metabolic panel	STAT For 1 Occurrences
[ ]	CBC with differential	STAT For 1 Occurrences
[ ]	Fibrinogen	STAT For 1 Occurrences
[ ]	Hepatic function panel	STAT For 1 Occurrences
[ ]	Ionized calcium	STAT For 1 Occurrences
[ ]	Lactic acid level	STAT For 1 Occurrences
[ ]	Magnesium	STAT For 1 Occurrences
[ ]	Phosphorus	STAT For 1 Occurrences
[ ]	Type and screen	STAT For 1 Occurrences

Laboratory - Repeat

[ ]	Basic metabolic panel	Every 6 hours, Starting S For 2 Occurrences
[ ]	Blood gas, venous	Every 6 hours, Starting S For 2 Occurrences
[ ]	CBC with differential	Every 6 hours, Starting S For 2 Occurrences

Laboratory - Additional Microbiology Screens

[ ]	Aerobic culture	Once For 1 Occurrences
[ ]	Anaerobic culture	Once For 1 Occurrences
[ ]	Respiratory culture, quantitative	Once For 1 Occurrences, Mini bronchial alveolar lavage
[ ]	Respiratory pathogen panel	Once For 1 Occurrences
[ ]	Sputum culture	Once For 1 Occurrences, Sputum
[ ]	Urinalysis screen and microscopy, with reflex to culture	Once For 1 Occurrences Specimen Source: Urine Specimen Site:

Laboratory - Additional Microbiology Screens

[ ]	Aerobic culture	Once
[ ]	Anaerobic culture	Once
[ ]	Gastrointestinal panel	Once, Stool
[ ]	Respiratory culture, quantitative	Once, Mini bronchial alveolar lavage
[ ]	Respiratory pathogen panel	Once
[ ]	Sputum culture	Once, Sputum
[ ]	Urine Culture and Urinalysis	**"And" Linked Panel**
[ ]	Urine culture	Once For 1 Occurrences, Urine
[ ]	Urinalysis	STAT For 1 Occurrences

Laboratory - Additional Microbiology Screens

[ ]	Aerobic culture	Once For 1 Occurrences
[ ]	Anaerobic culture	Once For 1 Occurrences
[ ]	Gastrointestinal panel	Once For 1 Occurrences, Stool
[ ]	Respiratory culture, quantitative	Once For 1 Occurrences, Mini bronchial alveolar lavage
[ ]	Respiratory pathogen panel	Once For 1 Occurrences
[ ]	Sputum culture	Once For 1 Occurrences, Sputum
[ ]	Urinalysis	Once For 1 Occurrences
[ ]	Urine culture	Once For 1 Occurrences, Urine

Imaging

Chest X -Ray

[ ]	Chest 1 Vw Portable	STAT, 1 time imaging For 1
[ ]	Chest 2 Vw	STAT, 1 time imaging For 1

Consults

Antibiotics Pharmacy Consult

[ ]	Pharmacy consult to manage dose adjustments for renal function	Routine, Until discontinued, Starting S Adjust dose for: Pharmacy consult to review orders for renal dosing prior to administration of second dose of antibiotics

Consults

[ ] Consult Infectious Diseases	Reason for Consult? Consult with Infectious Disease to review and/or adjust current antibiotic selection if necessary. Initial treatment should already be initiated. Patient/Clinical information communicated? Patient/clinical information communicated? Ordering provider must contact ID Consultant