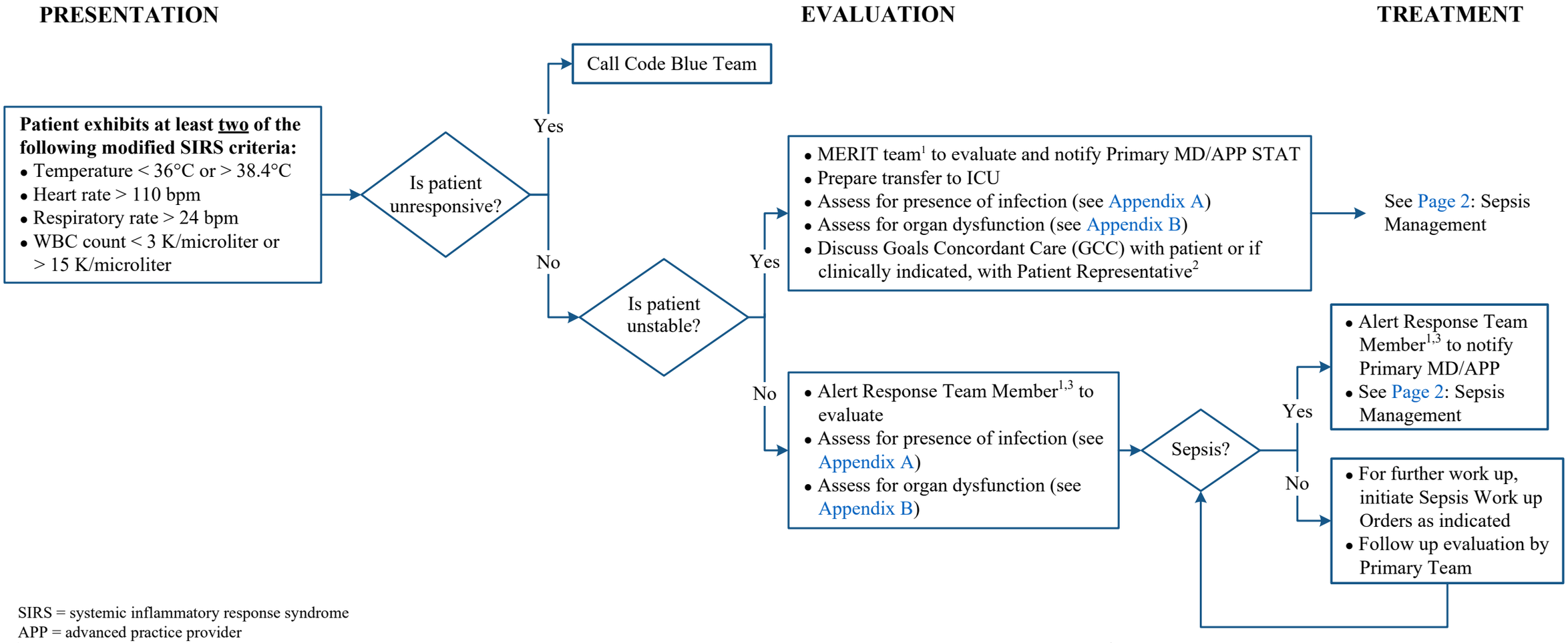
Inpatient Sepsis Management - Adult



SIRS = systemic inflammatory response syndrome
APP = advanced practice provider

[1] For patients in the Acute Cancer Care Center (ACCC), only those with an inpatient status will be evaluated by the MERIT team and/or Alert Response Team Member[3]

[2] GCC should be initiated by the Primary Oncologist. If Primary Oncologist is unavailable, Primary Team/Attending Physician to initiate GCC discussion and notify Primary Oncologist. Patients or if clinically indicated, the Patient Representative should be informed of therapeutic and/or palliative options. GCC discussion should be consistent, timely, and re-evaluated as clinically indicated. The Advance Care Planning (ACP) note should be used to document GCC discussion. Refer to GCC home page (for internal use only).

[3] Alert Response Team Member only available in pilot area(s). Primary Teams to evaluate if in a non-pilot area.

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TREATMENT

Sepsis Management →

- Initiate sepsis orders
  - Blood cultures x2. *Do not delay antibiotic therapy if cultures cannot be obtained within 45 minutes.*
  - Give Broad spectrum antibiotics – first dose **STAT**
  - Cultures from sputum, urine, and other sources as clinically indicated
  - CBC with differential, lactic acid, point of care lactic acid (if available), ABG, basic metabolic panel, magnesium, phosphorus, calcium, PT, PTT, D-dimer, fibrinogen, total bilirubin, direct bilirubin, AST, ALT, alkaline phosphatase, LDH, albumin, and lipase
  - Verify adequate IV access. Consider intraosseous (IO) or central venous access if clinically indicated.
  - Give fluid challenge of 30 mL/kg crystalloids [*e.g.*, plasmalyte, Lactated Ringer's, sodium chloride 0.9% (NS)]; each liter should be given over 30-60 minutes
    - Reduce volume of fluid challenge if patient has history of left ventricular ejection fraction (LVEF) < 40%
    - Do not use hetastarch fluids
  - Frequent vital signs and neuro checks as ordered
  - Maintain SpO_2 > 93%
- Consider transthoracic echocardiogram

MAP < 65 mmHg despite fluid resuscitation?

Yes →

Septic Shock
- Transfer to ICU for further management
- Norepinephrine for persistent hypotension
- If elevated, repeat lactic acid level within 6 hours
- Consider placement of arterial line and central venous access
- Monitor and maintain respiratory/hemodynamic status
- May repeat fluid bolus if indicated
- Discuss GCC with patient or if clinically indicated, with Patient Representative[1]

→ See Page 3: ACCC/ICU Management

No →

Sepsis
- Reassess patient frequently
- Monitor and maintain respiratory/ hemodynamic status
- Continue broad spectrum antibiotics
- Assess IV fluid provision
- Review STAT labs
- Request appropriate team consults
- If elevated, repeat lactic acid level within 6 hours
- Follow-up evaluation by Primary Team

MAP = mean arterial pressure

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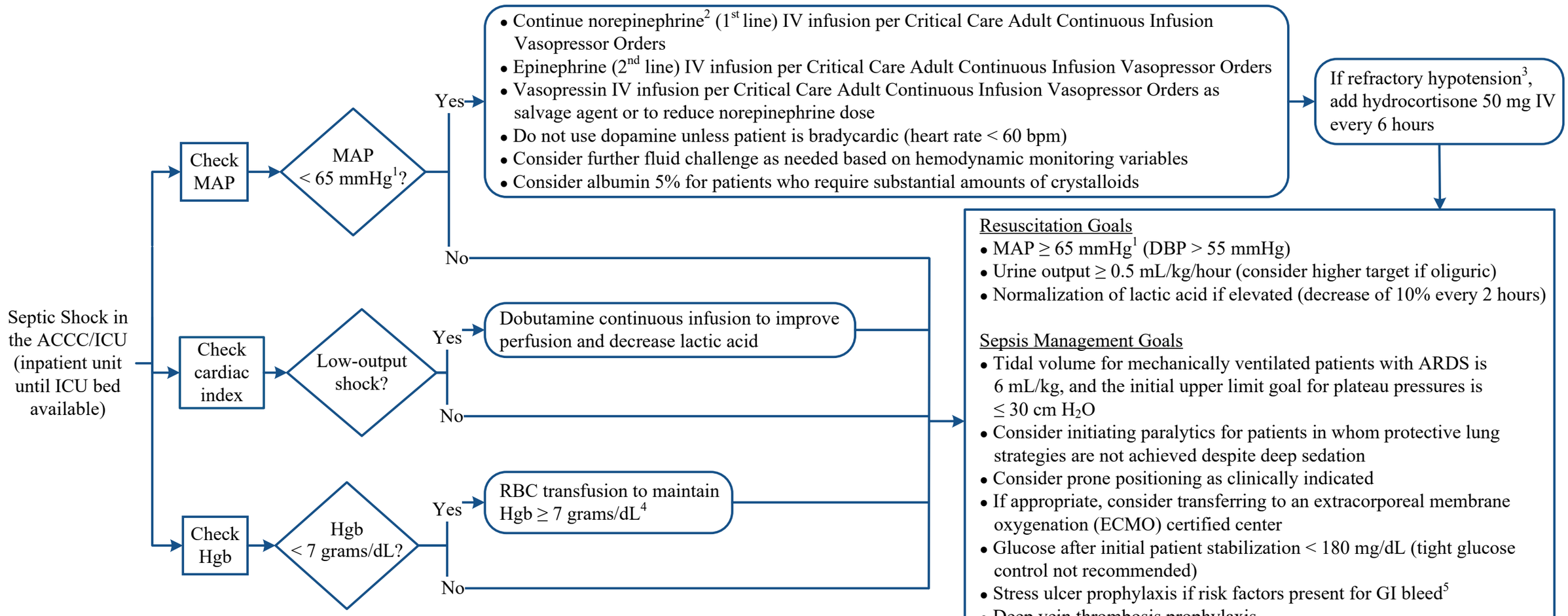

ARDS = acute respiratory distress syndrome

[1] Consider higher target if patient has history of hypertension, diabetes mellitus, vasculopathy, increased abdominal pressure, ensuing renal failure, or pulmonary hypertension

[2] If inpatient, may start norepinephrine as listed above while awaiting transfer to ICU (notify MERIT and prepare for immediate transfer to ICU)

[3] Refractory hypotension is defined as MAP < 65 mmHg despite adequate fluid resuscitation and vasopressors

[4] Surviving Sepsis Guidelines recommend that RBC transfusions occur only when hemoglobin concentration decreases to < 7 grams/dL in adults in the absence of extenuating circumstances, such as myocardial ischemia, severe hypoxemia, or acute hemorrhage (strong recommendation, high quality of evidence). For the extenuating circumstances, the goal is > 8 grams/dL.

[5] Risk factors for GI bleed: mechanical ventilation > 48 hours, coagulopathy, preexisting liver disease, renal replacement therapy, higher organ failure scores (see Appendix B)

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APPENDIX A: Suspicion of Infection

- Fever or hypothermia
- Recent surgical procedure
- Immunocompromised
  - Chemotherapy
  - Steroids/immunosuppressed
  - Loss of skin integrity
  - HIV/suspected HIV
- Skin wound
- Invasive device
  - Central line
  - Foley catheter
- Infiltrate on chest x-ray
- Cough with sputum production
- Diarrhea with or without abdominal pain
- History of diabetes mellitus
- Cirrhosis
- Unilateral sinusitis (and/or facial swelling)

APPENDIX B: SOFA Score to Assess for Organ Dysfunction[1]

Variables	0	1	2	3	4
Respiratory PaO_2/FiO_2 (mmHg)	≥ 400	300 - 399	200 - 299	100 - 199	< 100
Coagulation Platelets (K/microliter)	≥ 150	100 - 149	50 - 99	20 - 49	< 20
Liver Bilirubin (mg/dL)	< 1.2	1.2 - 1.9	2 - 5.9	6 - 11.9	> 12
Cardiovascular Hypotension	MAP ≥ 70 mmHg	MAP < 70 mmHg	Dopamine < 5 mcg/kg/minute or dobutamine (any dose)	Dopamine 5.1 - 15 mcg/kg/minute, or epinephrine ≤ 0.1 mcg/kg/minute, or norepinephrine ≤ 0.1 mcg/kg/minute	Dopamine > 15 mcg/kg/minute, or epinephrine > 0.1 mcg/kg/minute, or norepinephrine > 0.1 mcg/kg/minute
Central nervous system Glasgow Coma Scale	15	13 - 14	10 - 12	6 - 9	< 6
Renal Creatinine (mg/dL) or Urine Output (mL/day)	< 1.2 -	1.2 - 1.9 -	2 - 3.4 -	3.5 - 4.9 or < 500 mL/day	≥ 5.0 or < 200 mL/day

SOFA = sequential organ failure assessment
PaO_2 = partial pressure of oxygen
FiO_2 = fraction of inspired oxygen

[1] Increase in SOFA score by 2 or more points from baseline is indicative of organ dysfunction

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SUGGESTED READINGS

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DEVELOPMENT CREDITS

This practice consensus algorithm is based on majority expert opinion of the Sepsis workgroup at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

Core Development Team Leads

Imrana Malik, MD (Critical Care Medicine)
Joseph L. Nates, MD, MBA (Critical Care Medicine)

Workgroup Members

Ivana Bogdanich, PharmD, BCPS, BCACP (Pharmacy Clinical Programs)
Natalie Dailey Garnes, MD (Infectious Diseases)
Robert T. Drew, BS, MBA, RN (Acute Care Cancer Center)
Olga N. Fleckenstein, BS♦
Susan Gaeta, MD (Emergency Medicine)
Petra Grami, DNP, RN (Nursing Administration)
Bruno Palma Granwehr, MD (Infectious Diseases)
Jacob Hall, PharmD (Pharmacy Clinical Programs)
Josiah Halm, MD (General Internal Medicine)
Tapan Kadia, MD (Leukemia)
Arine Musaelyan, MD (Hospital Medicine)
Egbert Pravinkumar, MD (Critical Care Medicine)
Cesar Augusto Simbaqueba Clavijo, MD (Hospital Medicine)
Nicole Vaughan-Adams, MSN, RN (Clinical Nursing)
Delmy Vesho, MSN, RN (Nursing Administration)
Mary Lou Warren, DNP, APRN, CNS-CC♦

♦Clinical Effectiveness Development Team