Patient presents to the ED with fever and/or concern for infection and ED sepsis score ≥3

Provider Assessment: Is the patient ill appearing?

Yes

Well-appearing patients should be placed on the appropriate ED CSW pathway for their underlying condition (e.g., ED HemOnc BMT Suspected Infection, ED Suspected Central Line Infection, ED Neonatal Fever)

No

Use the ED Suspected Septic Shock pathway for all ill appearing patients including HemOnc/BMT, Central Line Infection and Neonates

ED Septic Shock Pathway

Inpatient Admit Criteria
- Resolution of hypotension and no ongoing signs of sepsis after ≤ 40 ml/kg NS bolus
- First dose antibiotics administered
- RISK to follow

Minute 60 Huddle: Does patient meet Inpatient admit criteria?

YES

Does NOT meet Inpatient Admit criteria
- Admit to ICU
- Follow ICU Septic Shock Pathway
- Use PICU/CICU Septic Shock Admit Plan
- Antibiotics, blood cultures for specific populations included in sub plans

NO

Previously healthy > 30 days
- Admit to General Medicine
- Follow Admit from ED Septic Shock Pathway
- Use Inpatient Septic Shock Plan

Previously healthy < 30 days
- Admit to General Medicine
- Follow Neonatal Fever Pathway
- Use Inpatient Fever Neonatal 0-30 days Plan

HemOnc/BMT Suspected Infection
- Admit to Cancer Care Unit
- Follow Hemonc/BMT Suspected Infection Pathway
- Use Hemonc Suspected Infection Admit Plan

Central Line Infection
- Admit to General Medicine/GI Transplant
- Follow Central Line Infection Pathway
- Use Admit orders + Central Line Infection Plan

RISK RN to follow all patients admitted with concern for sepsis

Any admitted patient with concern for new or evolving septic shock

Concern for evolving sepsis
- Call RRT or Code Blue
- Follow Inpatient New Septic Shock Pathway
- Use Inpatient New Septic Shock Plan

Signs & Symptoms of Sepsis
- Hypotension (MAP ≤ 5th percentile for age)
- Tachycardia
- Poor perfusion
- Reduced urine output
- Tachypnea/new oxygen requirement
- Mental status changes

For questions concerning this pathway, contact SepticShock@seattlechildrens.org

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Last Updated: June 2017
Next Expected Revision: December 2021
**Septic Shock v4.1**

**PHASE I**

**Suspected Septic Shock (ED)**

**Inclusion Criteria**
- Any patient with clinical concern for sepsis/septic shock OR ED Sepsis Score of 3 or greater AND ED attending/fellow assessment with concern for sepsis/septic shock

**Exclusion Criteria**
- None

**Activate Septic Shock Pathway**

- Assess airway, breathing, circulation
- Provide supplemental oxygen
- Reassess vital signs every 5 minutes
- Order appropriate antibiotics

**Access/Labs**
- EPOC: VBG, lactate, iCa
- POCT glucose
- Electrolytes, Magnesium, Phosphorus
- BUN, Creatinine
- Blood cultures
- CBC + diff
- CRP
- Consider ABO/RhD and antibody

**Administer Antimicrobials**
- Place 2 large bore PIVs if no central line
- Consider PIV in patients with central line
- If 2 unsuccessful IV attempts; consider IO

**Access/Labs**
- Previously healthy patients: ceftriaxone (+vancomycin if history of/concern for MRSA)
- **Appropriate antibiotics for specific populations:**
  - HemOnc/BMT Suspected Infection (HOBSI)
  - Central Line Infection
  - Neonatal Fever (0-30 days)
  - Consider history of resistant organisms

**Initiate vasoactive/inotropic drips for Fluid Refractory Shock**
- Epinephrine for **cold shock**
- Norepinephrine for **warm shock**
- Titrate drips to **resuscitation goals**
- Consider broadening **antibiotic coverage** as indicated

**ICU Transfer Criteria**
- Recurrent hypotension despite > 40mL/kg fluid resuscitation in the last 12 hours
- Fluid resuscitation includes either crystalloid or colloid
- Hypotension (MAP ≤ 5th percentile for age)
- Clinical situation not appropriate for ongoing fluid resuscitation
- Defined as underlying cardiac disease, lung disease, existing fluid overload, impaired renal function
- Lactate ≥ 4 or base excess < - 4 mmol
- Sustained change in mentation or perfusion (>15 minutes)
- Patient requires continuous ICU monitoring or ICU level respiratory support

**Respiratory Support**
- Consider ET intubation for ongoing respiratory distress or altered mental status

**Inpatient Admit Criteria**
- Resolution of hypotension AND no ongoing signs of sepsis after ≤ 40 ml / kg
- First dose antibiotics administered
- RISK to follow

---

**Explanation of Evidence Ratings**

**Signs & Symptoms of Sepsis**
- Hypotension (MAP ≤ 5th percentile for age)
- Tachycardia
- Poor perfusion
- Reduced urine output
- Tachypnea/new oxygen requirement
- Mental status changes

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PHASE IIA
ICU

Inclusion Criteria
• Any patient admitted to the ICU with concern for septic shock

Exclusion Criteria
• None

ICU Admission
If the following have not already occurred:
• Oxygen by face mask
• Obtain 2 points of IV access
• Obtain laboratory studies per pathway
• Assure 1st antibiotic infused within 1 hour of shock identification

Monitor response
vital sign targets &
clinical goals

Respiratory Support

Intubation and Sedation Medications

Infection source control

Repeat fluid boluses

Fluid Refractory Shock
Consider central line, arterial line, Foley

Warm Shock
• Titrate norepinephrine
• Consider epinephrine, vasopressin
• PRBC if Hgb <10g/dL
• Consider intubation

Cold Shock; Low BP
• Titrate epinephrine
• Consider norepinephrine, dobutamine
• PRBC if Hgb <10g/dL
• Consider intubation, BNP, ECHO

Cold Shock; Normal BP
• Titrate epinephrine
• Consider milrinone, dobutamine if SCvO2 <70% or lactate elevated
• PRBC if Hgb <10g/dL
• Consider intubation, BNP, ECHO

Catecholamine Resistant Shock
• Consider stress-dose hydrocortisone
• Evaluate for:
  • Pericardial effusion
  • Pneumothorax
  • Intra-abdominal hypertension
  • Primary cardiac dysfunction

Consider ECLS

ICU to Inpatient Transfer Criteria
• Weaned off of inotropic support
• Not requiring ICU level of respiratory support
• Hemodynamically stable

Return to Phase I
**Septic Shock v4.1**

**PHASE IIB**
Admit from ED to Inpatient for Septic Shock

**Inclusion Criteria**
- Any patient who is admitted to a service other than the ICU on Septic Shock Pathway

**Exclusion Criteria**
- None

**Signs & Symptoms of Sepsis**
- Hypotension (MAP ≤ 5th percentile for age)
- Tachycardia
- Poor perfusion
- Reduced urine output
- Tachypnea/ new oxygen requirement
- Mental status changes

**Patient placed on RISK dashboard**
- Vital signs Q 2 hours x 8 hours

**RISK Nurse Monitoring**
- RISK dashboard monitoring
- RISK nurse Inpatient evaluation
- RISK nurse determines time on dashboard
- RRT activation for signs of clinical deterioration

**Continued Sepsis Care**
- Continue appropriate antibiotics for specific populations x 48 hours
- Follow cultures daily, switch to narrow-spectrum antibiotics as indicated
- Discontinue antibiotics after 48 hours if cultures negative and clinically improving
- Advance diet as tolerated
- Continue maintenance IV fluids if indicated

**ICU Transfer Criteria**
- Recurrent hypotension despite > 40mL/kg fluid resuscitation in the last 12 hours
- Fluid resuscitation includes either crystalloid or colloid
- Hypotension (MAP ≤ 5th percentile for age)
- Clinical situation not appropriate for ongoing fluid resuscitation
- Defined as underlying cardiac disease, lung disease, existing fluid overload, impaired renal function
- Lactate ≥ 4 or base excess < - 4 mmol
- Sustained change in mentation or perfusion (>15 minutes)
- Patient requires continuous ICU monitoring or ICU level respiratory support

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# Septic Shock v4.1

## Approval & Citation

### PHASE IIC

**Inpatient New Septic Shock**

### Inclusion Criteria
- Any patient with clinical deterioration AND concern for new or evolving sepsis/septic shock

### Exclusion Criteria
- None

### Rapid Bedside Assessment

- **Primary team huddle to activate Septic Shock pathway**
- **Call RRT**
- **Appropriate antibiotics for specific population**

### Labs
- **EPOC**: Electrolytes, VBG, lactate, iCa
- **Bedside Glucose**
- **Blood cultures**
- **CBC + diff**
- **CRP**
- **Magnesium, Phosphorus**
- **BUN, Creatinine**
- **Consider ABO/RhD and antibody**

### Access/Initial Fluid Resuscitation
- **Consider PIV in patients with central line if additional access is needed**
- **Administer 1st bolus of 20 mL/kg normal saline rapidly over 20 minutes or less**
- **Consider 5-10 mL/kg boluses if concern for fluid intolerance (cardiac/renal dysfunction)**

### Ongoing Resuscitation
- **Administer 2nd bolus** of 20mL/kg normal saline rapidly over 20 minutes OR LESS
- **Order vasoactive/inotropic drips as indicated**
- **Consider blood products as indicated**
- **Consider broadening antibiotic coverage as indicated**

### Transfer to ICU
- **Initiate vasoactive/inotropic drips for Fluid Refractory Shock**
- **Epinephrine for cold shock**
- **Norepinephrine for warm shock**
- **Titrate drips to resuscitation goals**
- **Consider broadening antibiotic coverage as indicated**

### ICU Transfer Criteria
- **Recurrent hypotension** despite > 40mL/kg fluid resuscitation in the last 12 hours
- **Fluid resuscitation includes either crystalloid or colloid**
- **Hypotension** (MAP ≤ 5th percentile for age)
- **Clinical situation not appropriate for ongoing fluid resuscitation**
- **Defined as underlying cardiac disease, lung disease, existing fluid overload, impaired renal function**
- **Lactate ≥ 4 or base excess < - 4 mmol**
- **Sustained change in mentation or perfusion (>15 minutes)**
- **Patient requires continuous ICU monitoring or ICU level respiratory support**

---

**Seoul Children’s Hospital**

For questions concerning this pathway, contact **SepticShock@seattlechildrens.org**

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Last Updated: June 2017
Next Expected Revision: December 2021
Sepsis Score

Pediatric Sepsis Score: Adapted from the Pediatric septic shock collaborative patient identification tool. Currently validated for ED use only.

One point is given for presence of each concerning symptom:
- High risk condition (immunocompromised/central line)
- Vital sign abnormalities based on age:
  - Temperature
  - Hypotension
  - Tachycardia
  - Tachypnea
- Abnormal capillary refill
- Abnormal mental status
- Abnormal pulse
- Abnormal skin exam

Return to Patient Flow

Return to Phase I  Return to Phase IIA  Return to Phase IIB  Return to Phase IIC
## Antibiotic Selection by Patient Population

<table>
<thead>
<tr>
<th>Patient Population</th>
<th>Antibiotic Selection</th>
<th>Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously healthy &lt; 30 days</td>
<td>Ampicillin and cefotaxime</td>
<td>Acyclovir if HSV workup performed</td>
</tr>
<tr>
<td></td>
<td>Consider ampicillin and gentamicin if CSF pleocytosis not &gt; 20 WBC/mm² per pathway recommendations</td>
<td></td>
</tr>
<tr>
<td>Previously healthy &gt; 30 days</td>
<td>Ceftriaxone</td>
<td>Consider vancomycin for patients with known history of MRSA</td>
</tr>
<tr>
<td>HemOnc BMT Suspected Infection Patients</td>
<td>If HemOnc Patient: Caftazidime or Cafegime, per pathway; If BMT Patient: Meropenem</td>
<td>Cefepime or meropenem per pathway recommendations</td>
</tr>
<tr>
<td>Refer to &quot;Individual Antibiotic Plan&quot; (IAP) if available</td>
<td>**PLUS Consider adding gentamicin and vancomycin if hypotension despite 40 cc/kg NS or sooner if ill appearing and/or signs of severe sepsis. **PLUS Consider adding clindamycin or metronidazole if suspected perineal or intra-abdominal infection, respectively (unless receiving meropenem)</td>
<td>If concern for severe skin or perineal infection, consider use of “ED Necrotizing Soft Tissue Infection Plan”</td>
</tr>
<tr>
<td>Central Line Infection (not for HOSI/BMT)</td>
<td>Piperacillin-tazobactam OR meropenem per pathway recommendations</td>
<td>Ciprofloxacin AND linezolid per pathway recommendations</td>
</tr>
<tr>
<td></td>
<td><strong>PLUS Consider adding gentamicin AND vancomycin if ill appearing</strong> **PLUS Consider adding fluconazole per pathway recommendations</td>
<td></td>
</tr>
</tbody>
</table>
“Individualized Antibiotic Plan” (IAP)

- Care Plan for BMT patients that specifies which antibiotics the patient should receive
- Accessed on Patient Summary Page, or in CIS Care Plan Folder
- If no IAP exists, meropenem is default empiric therapy for BMT patients.
“Individualized Antibiotic Plan” (IAP) can be accessed directly from Patient Summary page.
“Individualized Antibiotic Plan” (IAP)

Or the IAP is found in the Care Plan Folder from “Documents and Notes”
## Definition of hypotension & resuscitation goals

<table>
<thead>
<tr>
<th>Age</th>
<th>Critical Hypotension</th>
<th>Hypotension</th>
<th>Resuscitation Goal (Minimum)</th>
<th>Normotension (Median for Age)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30 days</td>
<td>32 MAP ≤ 1% for age</td>
<td>≤ 39 MAP</td>
<td>≥ 42 MAP ≥ 10% for age</td>
<td>57 MAP = 50% for age</td>
</tr>
<tr>
<td>30-90 days</td>
<td>37</td>
<td>≤ 44 MAP</td>
<td>≥ 47 MAP ≥ 10% for age</td>
<td>62</td>
</tr>
<tr>
<td>91 days-1 year</td>
<td>41</td>
<td>≤ 48 MAP</td>
<td>≥ 52 MAP ≥ 10% for age</td>
<td>68</td>
</tr>
<tr>
<td>&gt;1-2 years</td>
<td>41</td>
<td>≤ 48 MAP</td>
<td>≥ 53 MAP ≥ 10% for age</td>
<td>70</td>
</tr>
<tr>
<td>&gt;2-4 years</td>
<td>41</td>
<td>≤ 50 MAP</td>
<td>≥ 55 MAP ≥ 10% for age</td>
<td>70</td>
</tr>
<tr>
<td>&gt;4-6 years</td>
<td>43</td>
<td>≤ 51 MAP</td>
<td>≥ 56 MAP ≥ 10% for age</td>
<td>70</td>
</tr>
<tr>
<td>&gt;6-10 years</td>
<td>46</td>
<td>≤ 54 MAP</td>
<td>≥ 58 MAP ≥ 10% for age</td>
<td>72</td>
</tr>
<tr>
<td>&gt;10-13 years</td>
<td>47</td>
<td>≤ 55 MAP</td>
<td>≥ 60 MAP ≥ 10% for age</td>
<td>74</td>
</tr>
<tr>
<td>&gt;13 years</td>
<td>48</td>
<td>≤ 57 MAP</td>
<td>≥ 61 MAP ≥ 10% for age</td>
<td>76</td>
</tr>
</tbody>
</table>

Resolution of hypotension = Two blood pressure measurements obtained 15 minutes apart with MAP ≥10 %ile
# Suggested Severe Sepsis/Septic Shock Resuscitation Goals

<table>
<thead>
<tr>
<th>Clinical Goals for Initial Resuscitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parameter</strong></td>
</tr>
<tr>
<td>Mean Arterial Pressure (MAP)</td>
</tr>
<tr>
<td>Urine Output (UOP)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Central Venous Pressure (CVP)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Lactate</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Central Venous Oxygen Saturation (ScvO2)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Hemoglobin</td>
</tr>
<tr>
<td>Mental Status</td>
</tr>
<tr>
<td>Capillary Refill</td>
</tr>
</tbody>
</table>
### Warm Shock & Cold Shock

<table>
<thead>
<tr>
<th></th>
<th>WARM shock</th>
<th>COLD shock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral perfusion</td>
<td>Warm/flushed</td>
<td>Cold/clammy/cyanotic/mottled</td>
</tr>
<tr>
<td>Capillary refill</td>
<td>Brisk/flash; &lt;2 sec</td>
<td>Delayed; &gt;2 sec</td>
</tr>
<tr>
<td>Pulse</td>
<td>Bounding</td>
<td>Weak/thready</td>
</tr>
<tr>
<td>Heart rate</td>
<td>↑</td>
<td>↑ or ↓</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>May be normotensive</td>
<td>Usually hypotensive</td>
</tr>
<tr>
<td>Pulse pressure</td>
<td>Widened</td>
<td>Narrow</td>
</tr>
</tbody>
</table>
Bedside Huddle

- ED Providers, PICU +/- hospitalist or relevant subspecialty team should attend the huddle
- Assess patient, review response to first 60 minutes of ED care
- Determine disposition: Does patient meet inpatient criteria (Normotensive after ≤ 40mL/kg NS boluses, well appearing with reassuring labs, first dose antibiotics administered)
  - IF no ➤ admit to PICU and use PICU septic shock order set
  - IF yes ➤ admit to appropriate inpatient team (general medicine, hemonc, GI)
    - Patients admitted to inpatient teams will be placed on the RISK dashboard
## Rapid Response Team (RRT) K-Card Audit

<table>
<thead>
<tr>
<th>#</th>
<th>Data Point</th>
<th>Circle one</th>
<th>Coaching Tip</th>
</tr>
</thead>
</table>
| 1  | Was the provider notified or aware of the RRT?                            | Yes / No   | • Providers and residents are not automatically notified of an RRT  
• The patient’s primary team should be aware of an RRT |
| 2  | Was a statement made to ask if the patient would benefit from increased monitoring in the ICU? | Yes / No   | Patients may not need immediate “ICU level intervention” but could benefit from being in the ICU where monitoring is heightened and resources are available more quickly than on acute care |
| 3  | If the patient was not transferred to the ICU, was there a clear plan of care that was documented on the white board in the patient’s room? | Yes / No N/A (ICU Transfer) | • Specific timeline of when to re-escalate care  
• Time when RISK RN will come to reassess  
• Visible to all staff and patient/family on the whiteboard  
• Assure patient is on RISK dashboard and RRT is charted in iView |

**total Compliant with all elements?** | Yes / No | Must have a yes or N/A circled for all questions |

**Patient Label:**

Send to: Julie Ho, Nursing Quality, FA 2114
BMT Patients

- Begin fluid resuscitation with 20 ml/kg crystalloid or colloid
  - Consider smaller bolus volume (5-10ml/kg) in patients with known or suspected cardiac dysfunction
- Order vasoactive medications early
- If not clinically improving after 40 ml/kg start vasoactive medications
Approved by the CSW Septic Shock Team for 12/14/16 go-live date

CSW Sepsis/Septic Shock Team:

Emergency Department, Owner: Lori Rutman, MD
ICU, Stakeholder: Reid Farris, MD, MS
ICU, Stakeholder: Silvia Hartman, MD
HemOnc, Stakeholder: Kasey Leger, MD
HemOnc, Stakeholder: Jennifer Wilkes, MD
HemOnc, Stakeholder: Leah Kroon, CNS
Emergency Department, CNS: Sara Fenstermacher, CNS
Emergency Department, CNS: Elaine Beardsley, CNS
Clinical Pharmacy: Rochelle Legg, PharmD
Pharmacy Informatics: Raphaeus Villanueva, PharmD
Medical Unit, CNS: Coral Ringer, MN, CNS
Emergency Department, Stakeholder: Eileen Klein, MD, MPH
Emergency Department, Stakeholder: Ron Kaplan, MD
ICU, Stakeholder: Jerry Zimmerman, MD
RISK team/ICU Stakeholder: Joan Roberts, MD
Central Line Infection Pathway Owner: Mathew Kronman, MD
Antimicrobial Stewardship Committee: Dan Pak, MD, Scott Weissman, MD
Pediatric Chief Residents, Stakeholder: Allison LaRoche, MD

Clinical Effectiveness Team:

Consultant: Darren Migita, MD
Project Manager: Pauline Ohare, MBA
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CIS Informatician: Troy McGuire, MD
CIS Analyst: Heather Marshall
Librarian: Jackie Morton, MLIS
Program Coordinator: Kristyn Simmons

Executive Approval:

Sr. VP, Chief Medical Officer: Mark Del Beccaro, MD
Sr. VP, Chief Nursing Officer: Susan Heath, RN, MN, NEA-BC
Surgeon-in-Chief: Bob Sawin, MD


Please cite as:
This pathway was developed through local consensus based on published evidence and expert opinion as part of Clinical Standard Work at Seattle Children’s. Pathway teams include representatives from Medical, Subspecialty, and/or Surgical Services, Nursing, Pharmacy, Clinical Effectiveness, and other services as appropriate.

When possible, we used the GRADE method of rating evidence quality. Evidence is first assessed as to whether it is from randomized trial or cohort studies. The rating is then adjusted in the following manner (from: Guyatt G et al. J Clin Epidemiol. 2011;4:383-94.):

Quality ratings are *downgraded* if studies:
- Have serious limitations
- Have inconsistent results
- If evidence does not directly address clinical questions
- If estimates are imprecise OR
- If it is felt that there is substantial publication bias

Quality ratings are *upgraded* if it is felt that:
- The effect size is large
- If studies are designed in a way that confounding would likely underreport the magnitude of the effect OR
- If a dose-response gradient is evident

Guideline – Recommendation is from a published guideline that used methodology deemed acceptable by the team.

Expert Opinion – Our expert opinion is based on available evidence that does not meet GRADE criteria (for example, case-control studies).

**Quality of Evidence:**
- 🌟🌟🌟🌟 High quality
- 🌟🌟🌟 Moderate quality
- 🌟🌟 Low quality
- 🌟🌟🌟🌟 Very low quality

Guideline
Expert Opinion
Summary of Version Changes

Version 1.0 (10/7/2015): Go live

Version 2.0 (2/12/16): Clarification of clinical findings indicative of warm vs. cold shock added; updates to hypotension and resuscitation goals to reflect hospital standards; clarification of indication for RRT vs. code blue

Version 3.0 (12/14/16): New Septic Shock Inpatient Plan update; Revision of Septic Shock Score Trigger; Inclusion of BMT in Hem/Onc Suspected Infection pathway (renamed Hem/Onc/BMT Suspected Infection - HOBSI)

Version 4.0 (5/22/17): Updated MAP to include Normotension Median for Age (50 % ile). Added verbiage “Resolution of hypotension = Two blood pressure measurements obtained 15 minutes apart with MAP ≥10 %ile”


Return to Patient Flow
Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required.

The authors have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at the time of publication.

However, in view of the possibility of human error or changes in medical sciences, neither the authors nor Seattle Children’s Healthcare System nor any other party who has been involved in the preparation or publication of this work warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such information.

Readers should confirm the information contained herein with other sources and are encouraged to consult with their health care provider before making any health care decision.
Search Methods, *Sepsis*, Clinical Standard Work

Studies were identified by searching electronic databases using search strategies developed and executed by a medical librarian, Jackie Morton. Searches were performed in April, 2015. The following databases were searched – on the Ovid platform: Medline (2012 to date), Cochrane Database of Systematic Reviews (2012 to date); elsewhere – Embase (2012 to date), Clinical Evidence, National Guideline Clearinghouse, TRIP (2012 to date) and Cincinnati Children’s Evidence-Based Care Guidelines.

Retrieval was limited to humans (any age) and English language. In Medline and Embase, appropriate Medical Subject Headings (MeSH) and Emtree headings were used respectively, along with text words, and the search strategy was adapted for other databases using their controlled vocabularies, where available, along with text words. Concepts searched were sepsis and specific laboratory diagnostic procedures or antibiotic therapeutics. Additional searches for concepts not specific to sepsis were Rapid Sequence Intubation (RSI) and sedation, anesthetic, paralytic or pain agents and lastly the use and number of peripheral intravenous lines. All retrieval was further limited to certain evidence categories, such as relevant publication types, Clinical Queries filters for diagnosis and therapy, index terms for study types and other similar limits.

An additional consensus document was identified by team members and added to results.

**Identification**

- 233 records identified through database searching
- 1 additional records identified through other sources

**Screening**

- 234 records after duplicates removed
- 234 records screened
- 167 records excluded

**Eligibility**

- 67 records assessed for eligibility
- 56 full-text articles excluded, 5 did not answer clinical question, 46 did not meet quality threshold, 4 removed for other reasons, 1 was a duplicate

**Included**

- 11 studies included in pathway

Flow diagram adapted from Moher D et al. BMJ 2009;339:bmj.b2535


Texas Children’s Hospital Evidence-Based Outcomes Center. Recognition and Initial Management Septic Shock Review Summary. . Updated 2015 JanuaryPDF.