

Welcome!

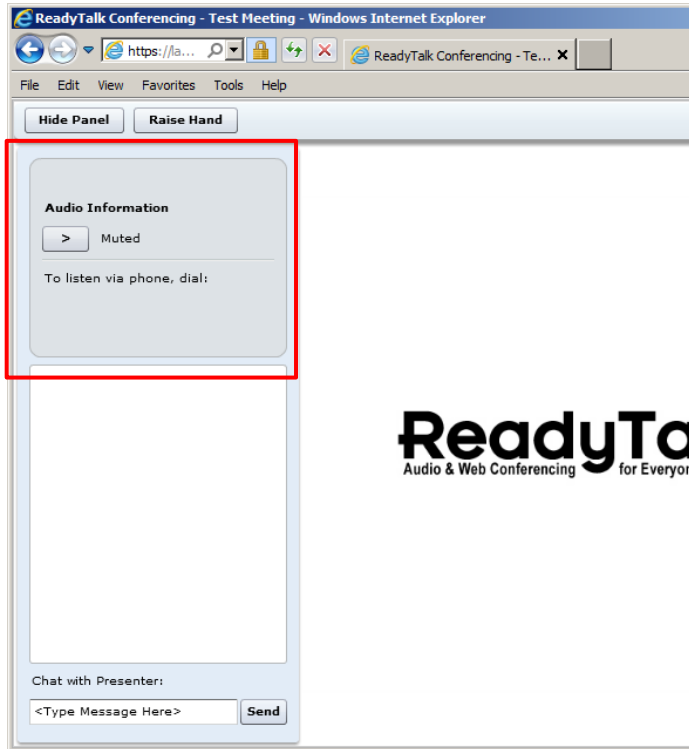
- **Audio for this event is available via ReadyTalk® Internet Streaming.**
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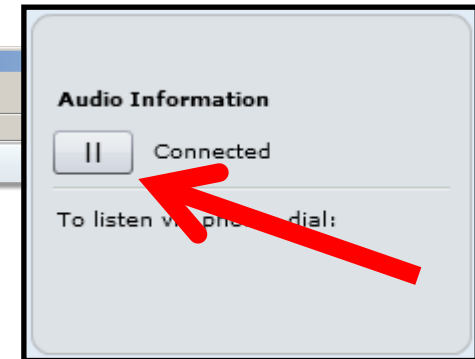
Troubleshooting Audio

Audio from computer speakers breaking up?
Audio suddenly stop?

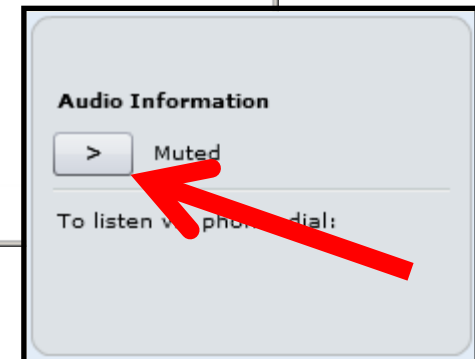
- Click Pause button
- Wait 5 seconds
- Click Play button



Location of Audio Controls



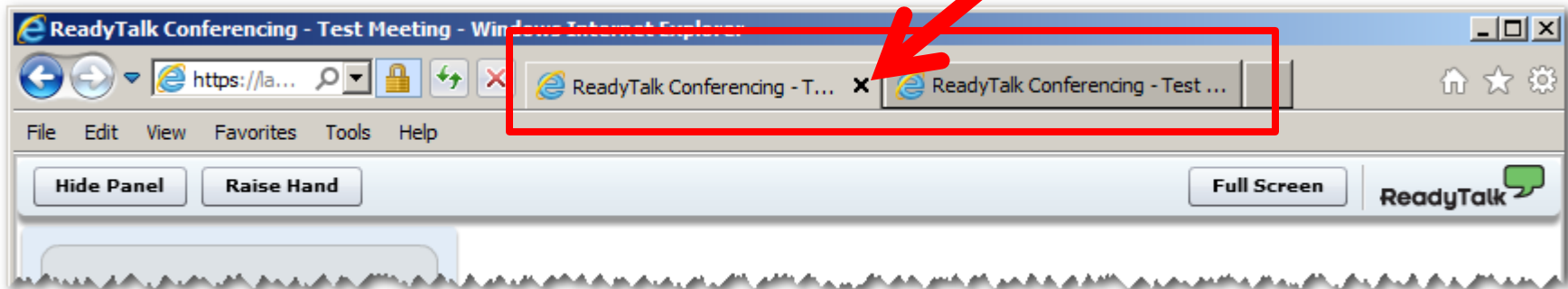
Step 1



Step 2

Troubleshooting Echo

- Hear a bad echo on the call?
- Echo is usually caused by multiple connections to a single event.
- Close all but one browser/tab and the echo will clear up.



Example of Two Connections to Same Event

Submitting Questions

Type questions in the “Chat with Presenter” section, located in the bottom-left corner of your screen.



The screenshot shows a presentation slide from the CMS (Centers for Medicare & Medicaid Services). The slide title is "Specifications Manual, Version 4.4a, Changes & Hospital VBP Program Improvement Series: MSPB". The date and time are "November 18, 2014, 10 a.m. & 2 p.m. ET". The slide lists three speakers: Candace Jackson, RN, Hospital IQR Support Contract Lead; Cindy Cullen, Mathematica Policy Research; and Bethany Wheeler, BS, Hospital VBP Program Support Contract Lead. On the right side, it lists Donna Isgett, Sr. Vice President Corporate Quality and Safety at McLeod Medical Center, and Amanda Molski, Quality Coordinator at Memorial Hospital Sweetwater County. In the bottom-left corner, there is a "Chat with Presenter" window with a text input field containing "Type questions here." and a "Send" button. The chat window also has "Hide Chat" and "Raise Hand" buttons at the top left and "Full Screen" and "ReadyToGo" buttons at the top right.



The Clinician Perspective on Sepsis Care: Early Management Bundle for Severe Sepsis/Septic Shock

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Medical Officer at Centers for Medicare & Medicaid Services (CMS)

September 10, 2015

Purpose

- Provide physicians, medical directors, clinicians, nurses, clinical documentation teams, and pharmacists with insights that will help them better understand the *Early Management Bundle, Severe Sepsis/Septic Shock* measure
- Discuss the importance of data collection

Objectives

At the end of the presentation participants will be able to:

- Describe the basis, rationale, and content of the *Early Management Bundle, Severe Sepsis/Septic Shock* measure
- Explain the importance of the collection of the Sepsis Bundle
- Recognize the updates that have been made to SEP-1 since its introduction
- Recognize common critiques of SEP-1 and offer responses

Acronyms

- **CVC** Central Venous Catheter
- **CVP** Central Venous Pressure
- **CMS** Centers for Medicare & Medicaid Services
- **DX** Diagnosis
- **ED** Emergency Department
- **EGDT** Early Goal Directed Therapy
- **MAP** Mean Arterial Pressure
- **NQF** National Quality Forum
- **NNT** Number Needed to Treat
- **PB** Protocol-Based
- **SBP** Systolic Blood Pressure
- **ScvO₂** Central Venous Oxygen Saturation
- **SI** Stroke Index



The Clinician Perspective on Sepsis Care:
Early Management Bundle for Severe Sepsis/Septic Shock

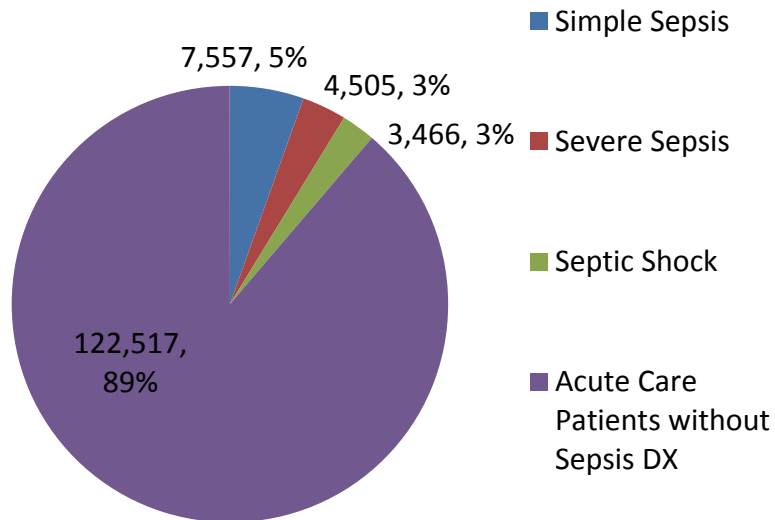
SEP-1: First National Core Measure on Sepsis Care

Surviving Sepsis
Campaign

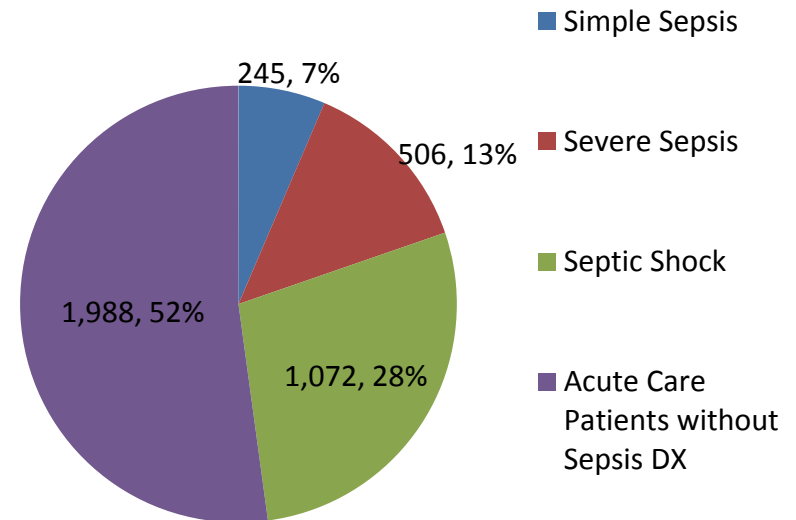
This presenter has nothing to disclose.

Sepsis is the #1 Cause of Inpatient Deaths

2014 Acute Care Discharges
11% of Patients Have Sepsis DX



2014 Acute Care Deaths
48% of Patients Have Sepsis DX



Old NQF Bundle: Sepsis 0500

To be completed within **three hours** of time of presentation*:

1. Measure lactate level
2. Obtain blood cultures prior to administration of antibiotics
3. Administer broad spectrum antibiotics
4. Administer 30ml/kg crystalloid for hypotension or lactate $\geq 4\text{mmol/L}$

* *“Time of presentation” is defined as the time of triage in the ED or, if presenting from another care venue, from the earliest chart annotation consistent with all elements severe sepsis or septic shock ascertained through chart review.*

Old NQF Bundle: Sepsis 0500 cont.

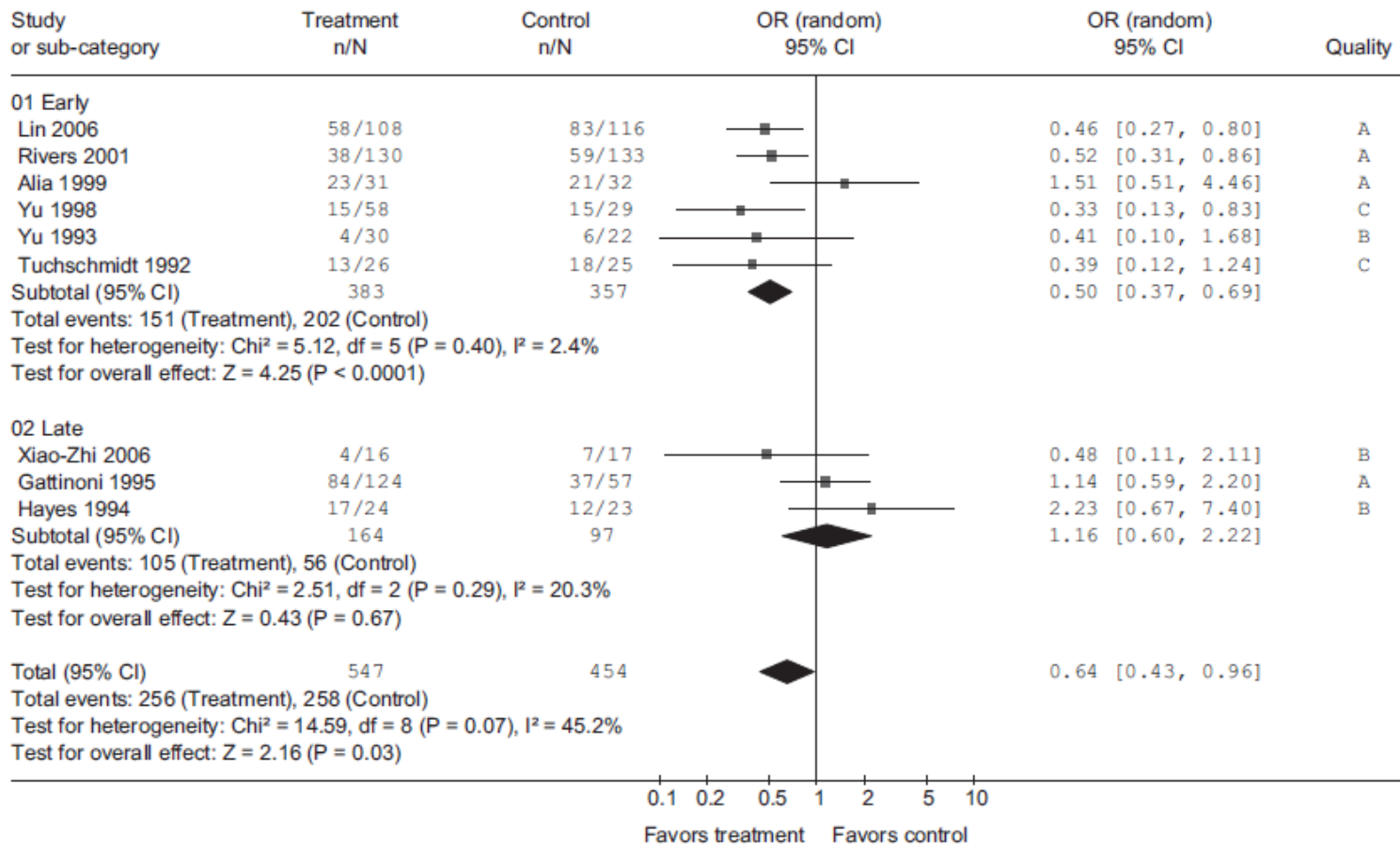
To be completed within **six hours** of time of presentation:

1. Apply vasopressors (for hypotension that does not respond to initial fluid resuscitation to maintain a mean arterial pressure (MAP) ≥ 65 mmHg)
2. In the event of persistent arterial hypotension despite volume resuscitation (septic shock) or initial lactate ≥ 4 mmol/L (36 mg/dl)
 - a. Measure central venous pressure (CVP)*
 - b. Measure central venous oxygen saturation (ScvO₂)*
3. Re-measure lactate*

* Targets for quantitative resuscitation included in the guidelines are CVP of ≥ 8 mm Hg, ScvO₂ of $\geq 70\%$ and lactate normalization

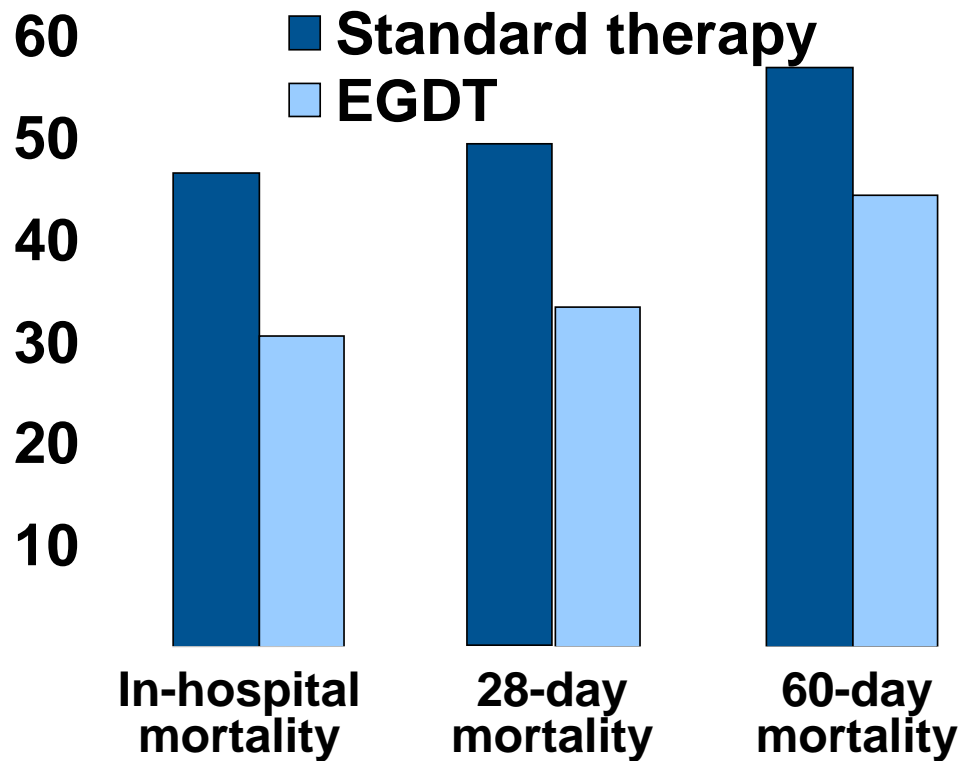
Quantitative Resuscitation

Review: Quantitative Resuscitation Strategy for Sepsis
 Comparison: 01 Quantitative Resuscitation vs. Standard Care
 Outcome: 01 Mortality



Early Goal Directed Therapy

NNT to prevent one event (death) = 6-8



Adapted from Table 3, page 1374, with permission from Rivers E, Nguyen B, Havstad S, et al. Early goal-directed therapy in the treatment of severe sepsis and septic shock. *N Engl J Med* 2001; 345:1368-1377

The Clinician Perspective on Sepsis Care:
Early Management Bundle for Severe Sepsis/Septic Shock

ProCESS, ARISE, ProMISE, AND Usual CARE

The New England Journal of Medicine

ORIGINAL ARTICLE

A Randomized Trial of Protocol-Based Care for Early Septic Shock

The ProCESS Investigators*

The New England Journal of Medicine

ORIGINAL ARTICLE

Goal-Directed Resuscitation for Patients with Early Septic Shock

The ARISE Investigators and the ANZICS Clinical Trials Group*

ABSTRACT

ProCESS Randomized Groups

	PROTOCOL-BASED EGDT (n 439)	PROTOCOL-BASED STANDARD TX (n 446)	USUAL CARE (n 456)
TEAM	Trained MD, RN, Prompts Non-adherence 11.9% (+ ScvO2<70)	Same as EGDT Non-adherence 4.4%	No prompts Trained for PB?
CENTRAL LINES	Continuous ScvO2	Only if inadequate peripheral access "no" CVP, ScvO2 < 6 hr	No instruction
GOALS	EGDT	SBP, SI, Perfusion and fluid status per clinician	Not specified
PRIMARY OUTCOME 60 Day Mortality	21.0%	18.2%	18.9%

ARISE Results

Table 2. Study Outcomes.

Variable	EGDT (N=793)	Usual Care (N=798)	Relative Risk (95% CI)	Risk Difference (95% CI)*	P Value
				<i>percentage points</i>	
Primary outcome: death by day 90 — no./total no. (%)	147/792 (18.6)	150/796 (18.8)	0.98 (0.80 to 1.21)	-0.3 (-4.1 to 3.6)	0.90
Secondary outcomes					
Median duration of stay (IQR) †					
Emergency department — hr	1.4 (0.5–2.7)	2.0 (1.0–3.8)			<0.001
ICU — days	2.8 (1.4–5.1)	2.8 (1.5–5.7)			0.81
Hospital — days	8.2 (4.9–16.7)	8.5 (4.9–16.5)			0.89
Use and duration of organ support ‡					
Invasive mechanical ventilation — no./total no. (%)	238/793 (30.0)	251/798 (31.5)	0.95 (0.82 to 1.11)	-1.4 (-6.0 to 3.1)	0.52
Median duration of invasive mechanical ventilation (IQR) — hr	62.2 (23.5–181.8)	65.5 (23.0–157.9)			0.28
Vasopressor support — no./total no. (%)	605/793 (76.3)	525/798 (65.8)	1.16 (1.09 to 1.24)	10.5 (6.1 to 14.9)	<0.001
Median duration of vasopressor support (IQR) — hr	29.4 (12.9–61.0)	34.2 (14.0–67.0)			0.24
Renal-replacement therapy — no./total no. (%)	106/793 (13.4)	108/798 (13.5)	0.99 (0.77 to 1.27)	-0.2 (-3.5 to 3.2)	0.94
Median duration of renal-replacement therapy (IQR) — hr§	57.8 (25.3–175.0)	85.9 (29.3–182.9)			0.40
Tertiary outcomes — no./total no. (%)					
Death by day 28	117/792 (14.8)	127/797 (15.9)	0.93 (0.73 to 1.17)	-1.2 (-4.7 to 2.4)	0.53
Death by the time of discharge from ICU	79/725 (10.9)	85/661 (12.9)	0.85 (0.64 to 1.13)	-2.0 (-5.4 to 1.5)	0.28
Death by the time of discharge from hospital¶	115/793 (14.5)	125/797 (15.7)	0.92 (0.73 to 1.17)	-1.2 (-4.7 to 2.3)	0.53

Differences Between Treatment and Control Groups in the ProCESS, ARISE, and ProMISE Trials

Clinical Trial	Cohort	Intravenous Fluids (milliliters)	Central Line Placement	Vasopressor Utilization
ProCESS May 2014	EGDT	2805 +/- 1957	411/439 (93.6%)	241/439 (54.9%)
	Usual Care	2279 +/- 1881	264/456 (57.9%)	201/456 (44.1%)
	Δ	526ml	35.7%	10.8%
ARISE October 2014	EGDT	1964+/-1415	714/793 (90%)	528/793 (66.6%)
	Usual Care	1713+/-1401	494/798 (61.9%)	461/798 (57.8%)
	Δ	251ml	28.1%	8.8%
ProMISE May 2015	EGDT	2000 (1150-3000)	575/624 (92%)	332/623 (53.3%)
	Usual Care	1784 (1075-2775)	318/625 (50.9%)	291/625 (46.6%)
	Δ	216ml	41.1%	6.7%

ProCESS Investigators, Yealy DM, Kellum JA, Juang DT, et al. A randomized trial of protocol-based care for early septic shock. N Engl J Med 2014; 370(18):1683-1693.

The ARISE Investigators and the ANZICS Clinical Trials Group. Goal-directed resuscitation for patients with early septic shock. N Engl J Med 2014; 371:1496-1506.

Mouncey PR, Osborn TM, Power GS, et al for the ProMISE trial investigators. Trial of early, goal-directed resuscitation for septic shock. N Engl J Med 2015; DOI: 10.1056/NEJMoa1500896.

Rivers E, Nguyen B, Havstad S, et al. Early goal-directed therapy in the treatment of severe sepsis and septic shock. N Engl J Med 2001;345:1368-1377

Conclusions

- Required monitoring of CVP and ScvO₂ via a CVC as part of early resuscitation does not confer survival benefit **in all patients** with septic shock **who have received timely antibiotics and fluid resuscitation** compared with controls.
- Requiring measurement of CVP and ScvO₂ in all patients with lactate >4 mmol/L and/or persistent hypotension after initial fluid challenge and timely antibiotics is not supported by available evidence.

The Clinician Perspective on Sepsis Care:
Early Management Bundle for Severe Sepsis/Septic Shock

NEW BUNDLES AND CMS “CORE MEASURES” TO BEGIN OCTOBER 2015

SEP-1

To be completed within **three hours** of time of presentation*:

1. Measure lactate level
2. Obtain blood cultures prior to administration of antibiotics
3. Administer broad spectrum antibiotics
4. Administer 30ml/kg crystalloid for hypotension or lactate ≥ 4 mmol/L

* *“Time of presentation” is defined as the time of earliest chart annotation consistent with all elements severe sepsis or septic shock ascertained through chart review.*

SEP-1

To be completed within **six hours** of time of presentation:

1. Apply vasopressors (for hypotension that does not respond to initial fluid resuscitation) to maintain a mean arterial pressure (MAP) ≥ 65 mmHg
2. In the event of persistent hypotension after initial fluid administration (MAP < 65 mm Hg) or if initial lactate was ≥ 4 mmol/L, re-assess volume status and tissue perfusion and document findings according to Table 1
3. Re-measure lactate if initial lactate elevated

SEP-1: TABLE 1

Document reassessment of volume status and tissue perfusion with **either**:

- Repeat focused exam (after initial fluid resuscitation) by licensed independent practitioner including vital signs, cardiopulmonary, capillary refill, pulse and skin findings

Or

- **Two** of the following:
 - Measure CVP
 - Measure ScvO₂
 - Bedside cardiovascular ultrasound
 - Dynamic assessment of fluid responsiveness with passive leg raise or fluid challenge

SEP-1: Time Zero

- Will always be when the chart annotation suggests signs and symptoms are all present
- May be from nursing charts, lab flow sheets, physician documentation, anything with a time stamp
- Will equal triage time if all signs and symptoms are present at triage

SEP-1: Two Clocks

- Severe Sepsis: **Three** hour and **six** hour Counters
- Septic Shock: **Three** hour and **six** hour Counters

Clinical example follows

SEP-1: Two Clocks cont.

- A patient developed severe sepsis **at 3 p.m.** but did not become hypotensive and fail to respond to fluids until **5 p.m.**

Does the **shock clock** start at **5 p.m.**?

- If so, then does the six hour window to complete the physical exam requirement begin at **5 p.m.** with the **shock clock** or at **3 p.m.** when severe sepsis was first noted?

SEP-1: Two Clocks cont.

- The **severe sepsis clock** would start with the presentation of severe sepsis (**3 p.m.**).
- The **septic shock clock** would start with presentation of septic shock (**5 p.m.**).
- The presentation of severe sepsis at **3 p.m.** will trigger the following counters with the start time being **3 p.m.**:
 - The **Sepsis Three Hour Counter** would require the following be completed by **6 p.m.**:
 - Initial lactate level measurement
 - Antibiotic administration
 - Blood cultures prior to antibiotics
 - **Sepsis Six Hour Counter** would require the following be completed by **9 p.m.**:
 - Repeat lactate if initial lactate is >2

SEP-1: Two Clocks cont.

The presentation of **septic shock** at **5 p.m.** will trigger the following counters with the start time being at **5 p.m.**

- The **Shock Three Hour Counter** would require the following be completed by **8 p.m.**:
 - Resuscitation with 30 mL/kg of crystalloid fluids
- The **Shock Six Hour Counter**, **ONLY** if hypotension persists, would require the following be completed by **11 p.m.**:
 - Vasopressor administration
 - Repeating the volume status and tissue perfusion assessment

Definition: Measure CVP

Criteria for Data Abstraction

- Expected response: “Yes” or “No” (“Yes” meaning CVP was checked)
- Requirements:
 - CVC placed in superior vena cava
 - or
 - Right heart (Swan-Ganz) catheter placement
 - in either case**
 - Measurement occurs within six hours of the presentation of septic shock

Physician Reference

- Clinically necessary or definitional, but documentation not required
- Goal CVP is 8–12mm Hg

Definition: Measure ScvO2 (or SvO2 for Pulmonary Artery Catheter)

Criteria for Data Abstraction

- Expected response: “Yes” or “No” (“Yes” meaning ScvO2 was measured and documented)
- Requirements:
 - CVC placed in superior vena cava (ScvO2)
 - or
 - Right heart (Swan-Ganz) catheter placement (SvO2)
- in either case
 - Measurement occurs within six hours of the presentation of septic shock

Physician Reference

- Clinically necessary or definitional, but documentation not required
- If right heart (Swan-Ganz) catheter is placed, the value of SvO2 (mixed venous oxygen saturation is appropriate)
- Definitional: Goal ScvO2 is >70%
- Definitional: Goal SvO2 is >65%

Definition:

Bedside Cardiovascular Ultrasound

Criteria for Data Abstraction

- Expected response: “Yes or “No” (“Yes” meaning an appropriate ultrasound was done)
- Requirement: Ultrasound occurs within six hours of the presentation of septic shock
- Appropriate exams to qualify for a “Yes” include:
 - TTE (trans-thoracic echocardiogram)
 - TEE (trans-esophageal echocardiogram)
 - IVC US (Inferior Vena Cava ultrasound)
 - Esophageal Doppler monitoring

Physician Reference

- Clinically necessary or definitional, but documentation not required
- Definitional: caval index: IVC expiratory diameter - IVC inspiratory diameter, divided by IVC expiratory diameter $\times 100 =$ caval index (%)
- Definitional: the caval index is written as a percentage, where a number close to 100% is indicative of almost complete collapse (and therefore volume depletion), while a number close to 0% suggests minimal collapse (i.e., likely volume overload)
- Informational: correlations between IVC size and CVP

Inferior Vena Cava Size (cm)	Respiratory Change	Central Venous Pressure (cm H ₂ O)
<1.5	Total collapse	0–05
1.5 – 2.5	> 50% collapse	6–10
1.5 – 2.5	< 50% collapse	11–15
>2.5	< 50% collapse	16–20
>2.5	No change	>20

Definition: Passive Leg Raise

Criteria for Data Abstraction

- Expected response: “Yes” or “No” (“Yes” meaning a passive leg raise is documented or administration of a fluid challenge is documented)
- Requirements:
 - Passive leg raise or fluid challenge occurs within six hours of the presentation of septic shock
 - No documentation of lower extremity amputation in the case of passive leg raise
 - Presence of a passive leg raise test typically documented as “PASSIVE LEG RAISE (PLR):” with findings “positive,” “negative,” “fluid responsive,” “not fluid responsive,” or other language

Physician Reference

- Clinically necessary or definitional, but documentation not required
 - Patient is seated at 45 degrees head up semi-recumbent position
 - Patient’s upper body is lowered to horizontal and legs passively raised to 45 degrees up
 - Maximal effect occurs at 30–90 seconds
 - Definitional: a 10% increase in stroke volume as documented on a cardiac output monitor reflects a positive test and a 9% increase in stroke volume has 86% sensitivity and 90% specificity
- Definitional: a 10% increase in pulse pressure as documented via an arterial line has a 79% sensitivity and 85% specificity

Definition: Repeat Physical Exam

Criteria for Data Abstraction

- Expected response: “Yes” or “No” (“Yes” meaning a complete exam is recorded)
- Requirements: clinical exam components within six hours of the presentation of septic shock and **must include each of the following**:
 - **Vital signs** (including temperature, heart rate, blood pressure, respiratory rate: all four must be present)
 - Presence of a **cardiopulmonary exam**, typically documented as “HEART” **and** “LUNGS”
 - Documentation examples: HEART- “RRR,” “Irregular,” “S1, S2, S3, S4”, “murmur;” or other LUNG - “clear,” “crackles,” “diminished,” “dull,” or other language
 - Presence of **peripheral pulses** examination typically “PULSES:” with findings
 - Documentation examples: “1+,” or “2+,” or “absent,” or other language
 - Presence of documentation of **capillary refill**
 - Documentation examples: “brisk,” “< 2 seconds,” “> 2 seconds,” or other language
 - Presence of a **skin examination**
 - Documentation examples: “mottled,” “not mottled,” “knee caps clear/mottled,” or other language.

Continuing Education Approval

- This program has been approved for 1.0 continuing education (CE) unit for the following professional boards:
 - Florida Board of Clinical Social Work, Marriage and Family Therapy and Mental Health Counseling
 - Florida Board of Nursing Home Administrators
 - Florida Council of Dietetics
 - Florida Board of Pharmacy
 - Board of Registered Nursing (Provider #16578)
 - It is your responsibility to submit this form to your accrediting body for credit.

CE Credit Process

- Complete the ReadyTalk® survey that will pop up after the webinar, or wait for the survey that will be sent to all registrants within the next 48 hours.
- After completion of the survey, click “done” at the bottom of the screen.
- Another page will open that asks you to register in HSAG’s Learning Management Center.
 - This is a separate registration from ReadyTalk
 - Please use your PERSONAL email so you can receive your certificate
 - Healthcare facilities have firewalls up that block our certificates

CE Credit Process: Survey

No

Please provide any additional comments

10. What is your overall level of satisfaction with this presentation?

Very satisfied

Somewhat satisfied

Neutral

Somewhat dissatisfied

Very dissatisfied

If you answered "very dissatisfied", please explain

11. What topics would be of interest to you for future presentations?

12. If you have questions or concerns, please feel free to leave your name and phone number or email address and we will contact you.

Done

Powered by **SurveyMonkey**
Check out our [sample surveys](#) and create your own now!

CE Credit Process

Thank you for completing our survey!

Please click on one of the links below to obtain your certificate for your state licensure.

You must be registered with the learning management site.

New User Link:

<https://lmc.hshapps.com/register/default.aspx?ID=da0a12bc-db39-408f-b429-d6f6b9ccb1ae>

Existing User Link:

<https://lmc.hshapps.com/test/adduser.aspx?ID=da0a12bc-db39-408f-b429-d6f6b9ccb1ae>

Note: If you click the 'Done' button below, you will not have the opportunity to receive your certificate without participating in a longer survey.

Done

CE Credit Process: New User

The screenshot shows a web registration form for a CE credit course. At the top left is the HSAG logo (Health Services Advisory Group). At the top right, there is a security notice: "this is a secure site please provide credentials to continue" with a small green padlock icon. Below this is the text "Learning Management Center". The main heading of the form is "Learning Center Registration: OQR: 2015 Specifications Manual Update - 1-21-2015". The form contains four input fields: "First Name:", "Last Name:", "Email:", and "Phone:". The "Phone:" field has a small icon of a telephone handset. Below the input fields is a "Register" button.

HSAG HEALTH SERVICES ADVISORY GROUP

this is a secure site
please provide credentials to continue

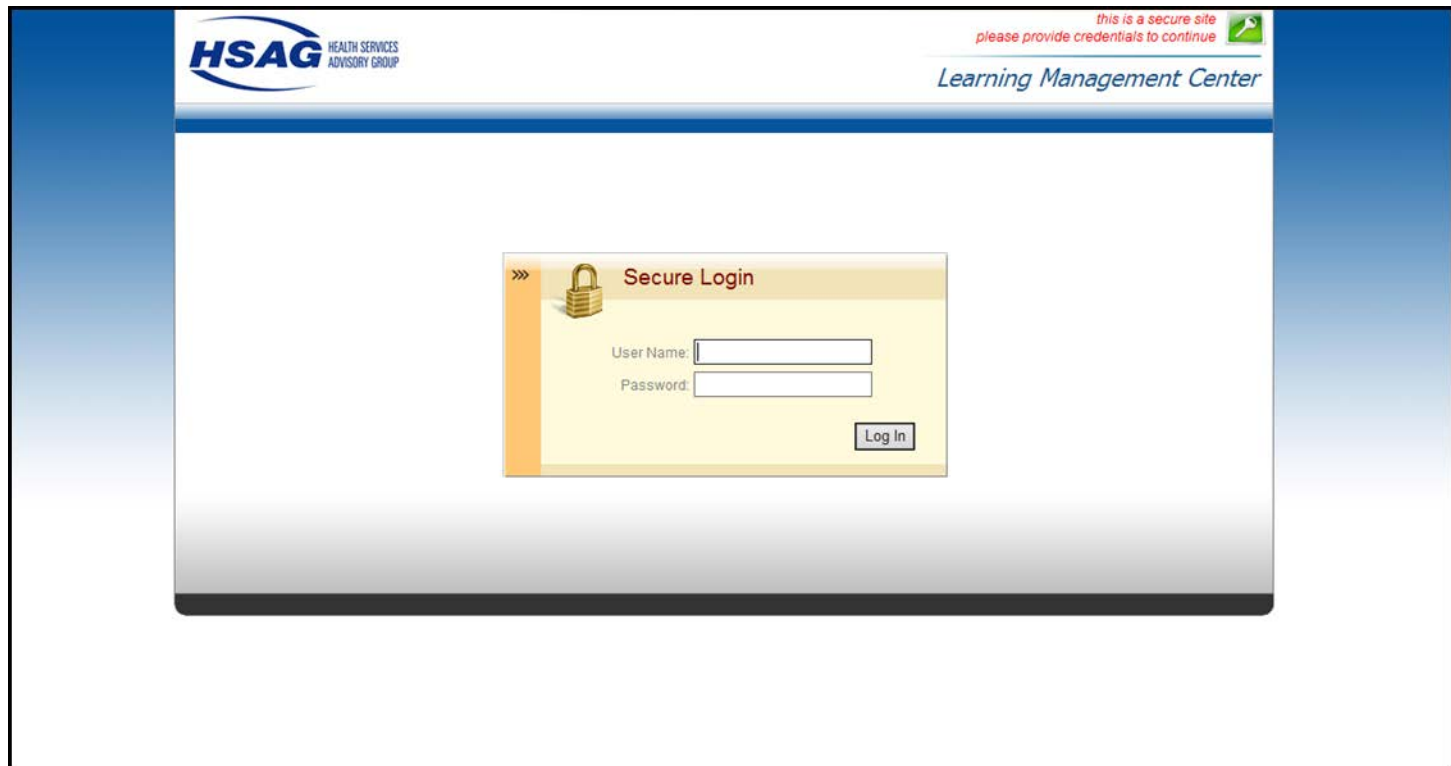
Learning Management Center

Learning Center Registration: OQR: 2015 Specifications Manual Update - 1-21-2015

First Name: Last Name:

Email: Phone:

CE Credit Process: Existing User



The screenshot displays the login interface for the HSAG Learning Management Center. At the top left is the HSAG logo (Health Services Advisory Group). At the top right, a security notice reads "this is a secure site please provide credentials to continue" with a lock icon. Below this is the text "Learning Management Center". The central focus is a "Secure Login" box containing a padlock icon, a "User Name:" label with an input field, a "Password:" label with an input field, and a "Log In" button.

QUESTIONS?
