



Stop Sepsis, Save Lives

What is Sepsis?

Jenifer Tabamo, RN, BSN, MSN, GNC(C), CMSN(C)

Regional Clinical Nurse Specialist

Personalized Support and Stabilization Teams

Quick Response Teams



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**Vancouver
CoastalHealth**





Know and Understand Sepsis

- What is Sepsis?
- What is its relationship with infections?
(lung, bladder, wound, blood including COVID-19)



Recognize and Spot Sepsis

- What are signs and symptoms of sepsis?
- What happens if sepsis is left unrecognized and untreated?



Stop and Prevent Sepsis

- What can we do to manage and treat sepsis?
- How can we prevent sepsis?



13 September

Sepsis

Awareness



Cases per 100,000 / USA¹



Have you ever heard the term "Sepsis"?

NO / YES

50%

49%

Germany

46%

44%

USA

71%

29%

Canada

93%

7%

Brazil

Why Sepsis?

“Sepsis leads to shock, multiple organ failure and death, especially if not recognized early and treated promptly.”

“Sepsis remains the primary cause of death from infection despite advances in modern medicine, including vaccines, antibiotics and acute care.”

Czura, 2011



The Lancet: Sepsis Associated with 1 in 5 Deaths Worldwide, Double Prior Estimates – Children and Poor Regions Hit Hardest



Global, regional, and national sepsis incidence and mortality, 1990–2017: analysis for the Global Burden of Disease Study



Kristina E Rudd, Sarah Charlotte Johnson, Kareha M Agesa, Katya Anne Shackelford, Derrick Tsoi, Daniel Rhodes Kievlan, Danny V Colombara, Kevin S Ikuta, Niranjana Kissoon, Simon Finfer, Carolin Fleischmann-Struzek, Flavia R Machado, Konrad K Reinhart, Kathryn Rowan, Christopher W Seymour, R Scott Watson, T Eoin West, Fatima Marinho, Simon I Hay, Rafael Lozano, Alan D Lopez, Derek C Angus, Christopher J L Murray, Mohsen Naghavi

Summary

Background Sepsis is life-threatening organ dysfunction due to a dysregulated host response to infection. It is considered a major cause of health loss, but data for the global burden of sepsis are limited. As a syndrome caused by underlying infection, sepsis is not part of standard Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) estimates. Accurate estimates are important to inform and monitor health policy interventions, allocation of resources, and clinical treatment initiatives. We estimated the global, regional, and national incidence of sepsis and mortality from this disorder using data from GBD 2017.

Lancet 2020; 395: 200–11

Published Online

January 16, 2020

[https://doi.org/10.1016/S0140-6736\(19\)32989-7](https://doi.org/10.1016/S0140-6736(19)32989-7)

See [Comment](#) page 168

Department of Critical Care



13 September

WORLD SEPSIS DAY INFOGRAPHICS



A GLOBAL HEALTH CRISIS



47 000 000 - 50 000 000
cases per year



At least 11 000 000 die
- 1 death every 2.8 seconds



Survivors may face
lifelong consequences



1 in every 5 deaths worldwide
is associated with sepsis

Infographic 2/21



Global
Sepsis
Alliance

www.worldsepsisday.org
www.global-sepsis-alliance.org

September | World
13 | Sepsis
2020 | Day

#Sepsis



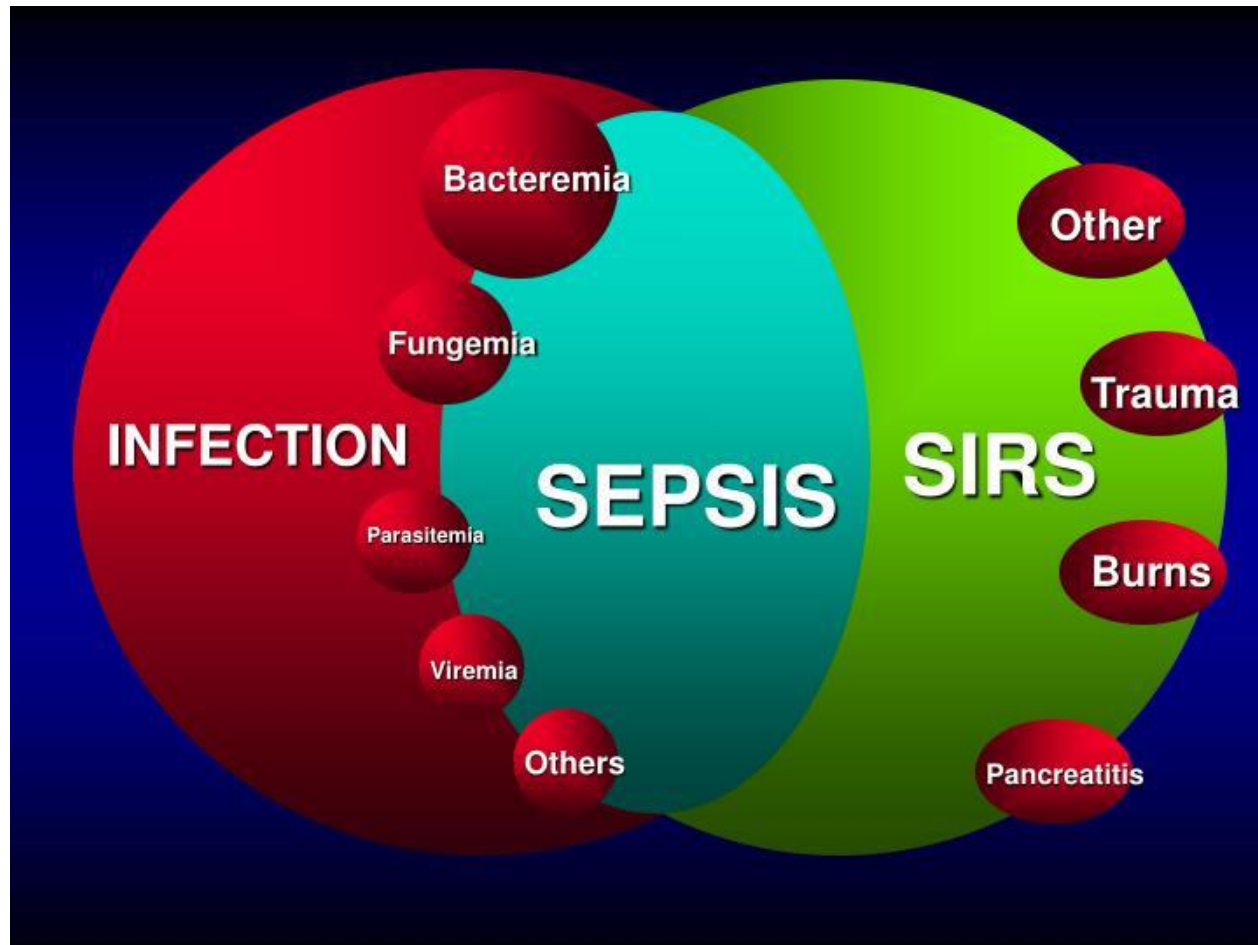
Who are at risk of Sepsis?

- Age 65 and above
- Recent surgery
- Pregnant women
- Obesity
- Previous hospitalizations
- Chronic Conditions
- Immunosuppressed or compromised
(post transplant, AIDS, on chemotherapy)

Sepsis can be difficult to identify in our patients, seen in instances such as those with physiologic changes (*pregnancy*), in a delirious state, or taking medications that alter normal bodily functions (ex: *beta blockers, antihypertensives, Tylenol masking fevers*)

Many patients' symptoms may be **masked, overlooked, or misinterpreted** for other conditions

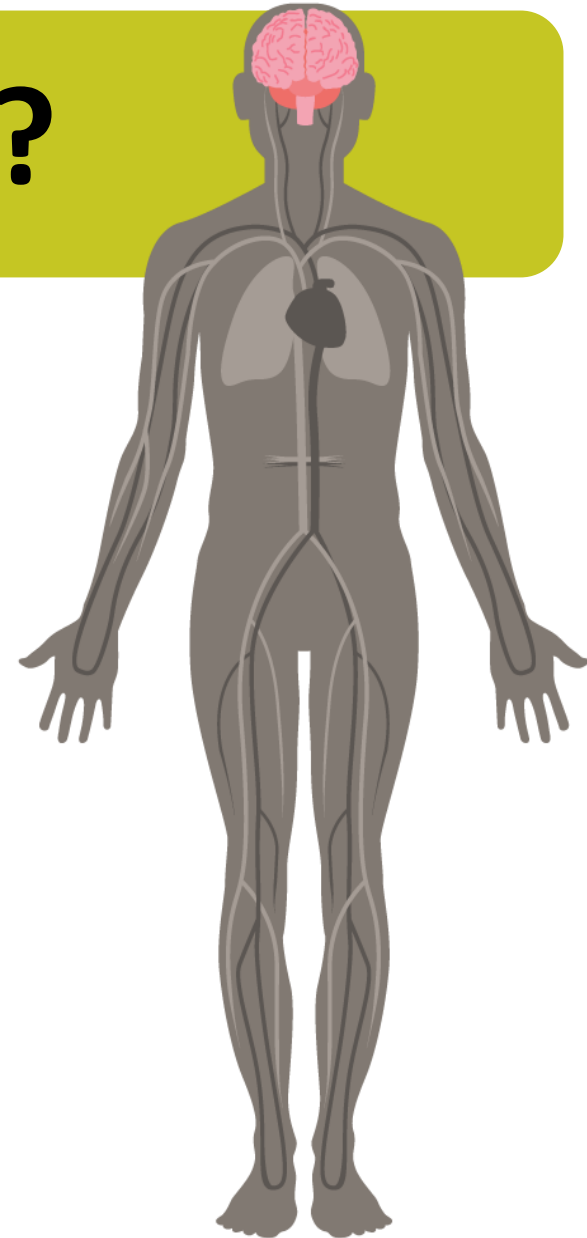
What is the Sepsis Cascade?



What is SIRS?



- Systemic Inflammatory Response Syndrome
- It is a clinical syndrome that is characterized by a strong inflammatory response, induced by a major body insult (infectious or non-infectious)
- “early signs”

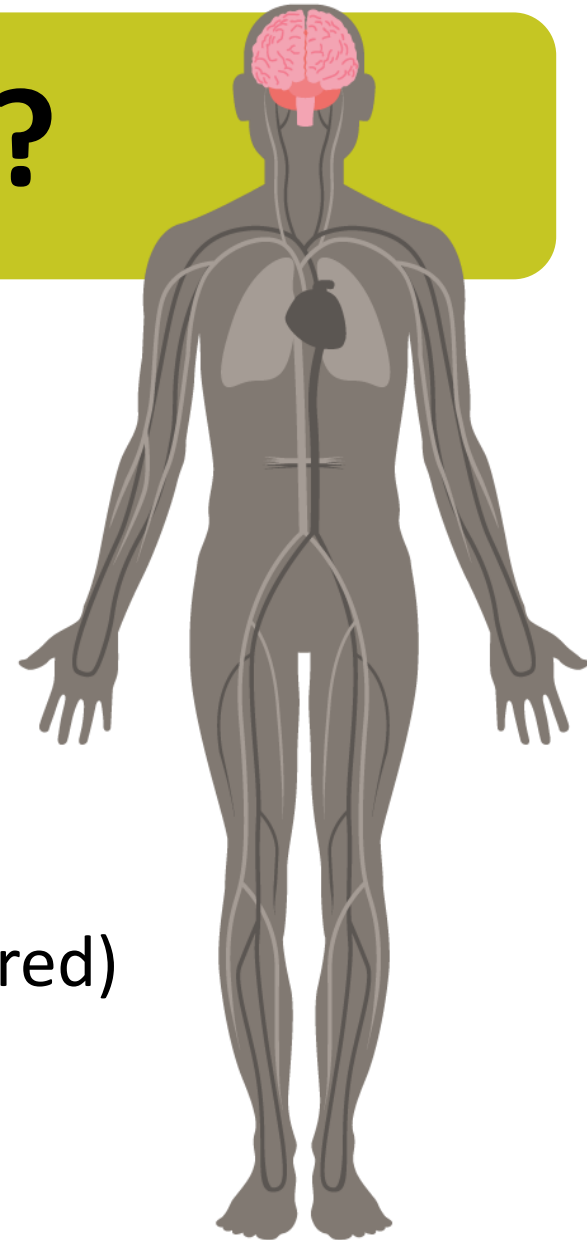


#Sepsis



What is SIRS?

- Abnormality in **at least 2** out of 5:
- Heart rate $> 90/\text{min}$
- Respiratory rate $> 20/\text{min}$
- Temperature $\geq 38^{\circ}\text{C}$ or $< 36^{\circ}\text{C}$
- WBC > 12.0 or $< 4.0 \times 10^9/\text{L}$ (if measured)
- Change in level of consciousness



#Sepsis

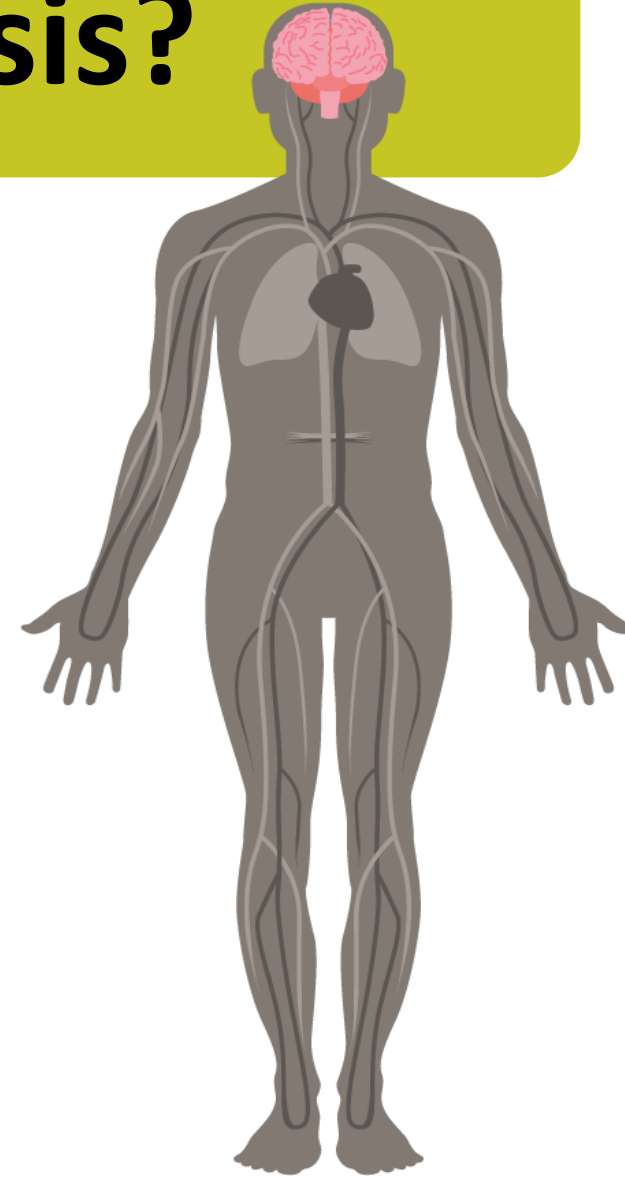


What is Sepsis?

- Dysregulated host response
- Defined as SIRS
(2 or more inflammatory response)

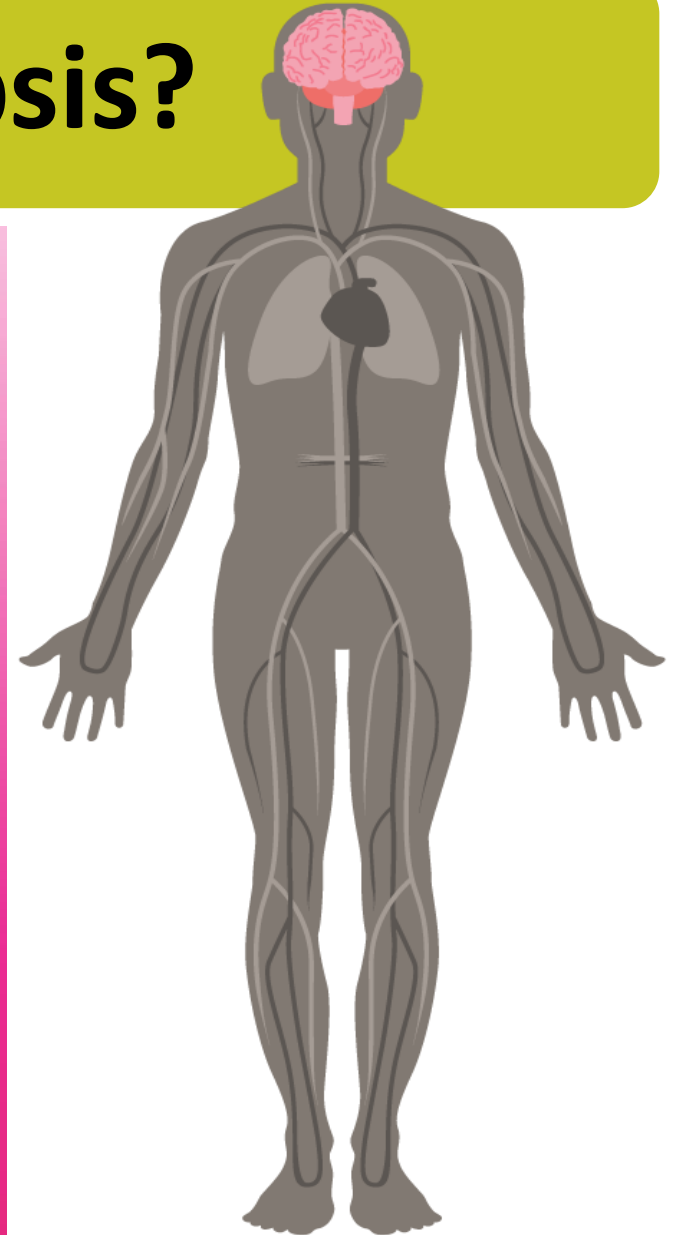
PLUS

- presence of a presumed or confirmed infection



#Sepsis

What is Sepsis?



WORLD SEPSIS DAY INFOGRAPHICS

WHAT IS SEPSIS?



SEPSIS ARISES WHEN THE BODY'S RESPONSE TO AN INFECTION INJURES ITS OWN TISSUES AND ORGANS. IT MAY LEAD TO SHOCK, MULTI-ORGAN FAILURE, AND DEATH – ESPECIALLY IF NOT RECOGNIZED EARLY AND TREATED PROMPTLY.

AWARENESS SAVES LIVES.

LEARN ABOUT SEPSIS AT
WWW.WORLD-SEPSIS-DAY.ORG



Infographic 1/21



Global
Sepsis
Alliance

www.world-sepsis-day.org
www.global-sepsis-alliance.org

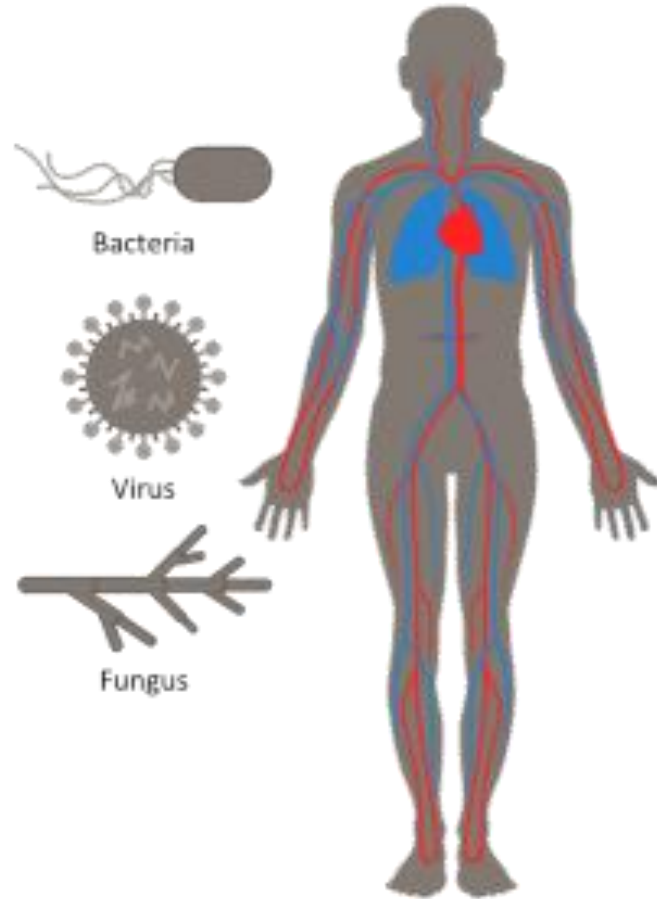
September | World
13 | Sepsis
2018 | Day

#Sepsis



What are causes of Sepsis?

- Bacteria
- Virus
- Fungus
- Parasites





What are common sources of Sepsis?

WORLD SEPSIS DAY INFOGRAPHICS



COMMON SOURCES OF SEPSIS

Meningitis

- Infection of Unknown Source
- Viruses, such as SARS-CoV-2

Skin or Soft Tissue Infection

Pneumonia

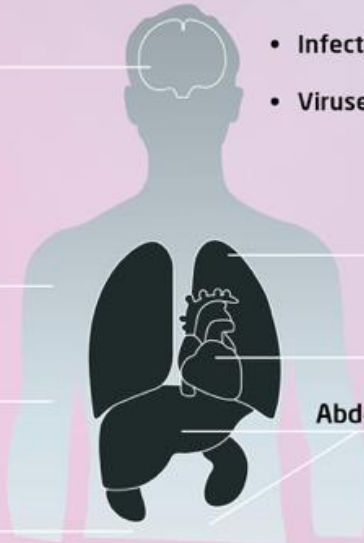
Catheter-Related Infection

Bloodstream Infection

Urinary Tract Infection

Abdominal Infections, e.g.

- Appendicitis
- Infectious Diarrhea
- Gallbladder Infection



Infographic 3/21



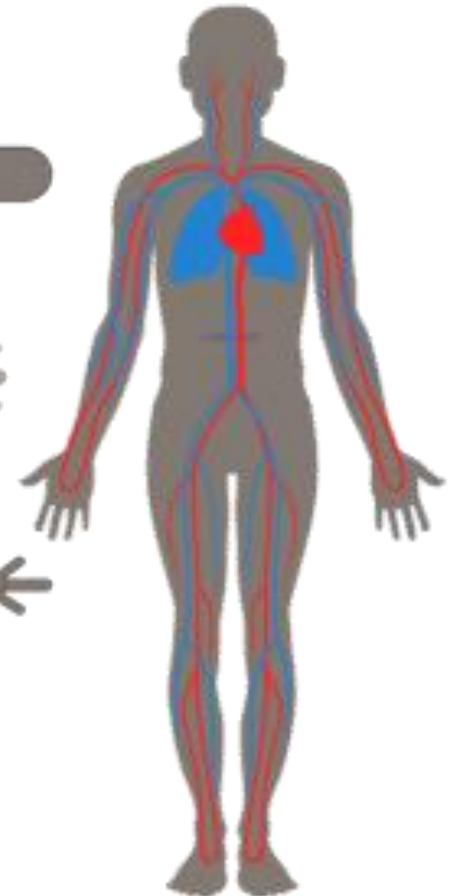
Bacteria



Virus



Fungus



Global Sepsis Alliance

www.worldsepsisday.org
www.global-sepsis-alliance.org

September 13, 2020 | World Sepsis Day

#Sepsis



Can COVID-19 cause Sepsis?



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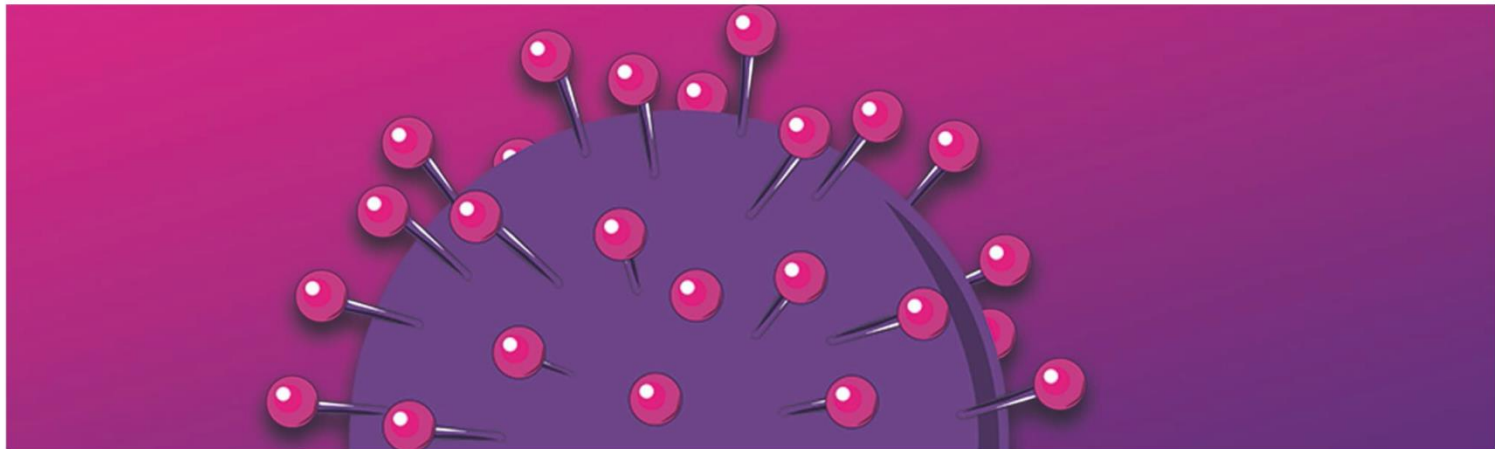
[ABOUT US](#) [SEPSIS](#) [BECOME INVOLVED](#)

[DONATE](#)



March 4, 2020 · Marvin Zick

Can COVID-19 Cause Sepsis? Explaining the Relationship Between the Coronavirus Disease and Sepsis



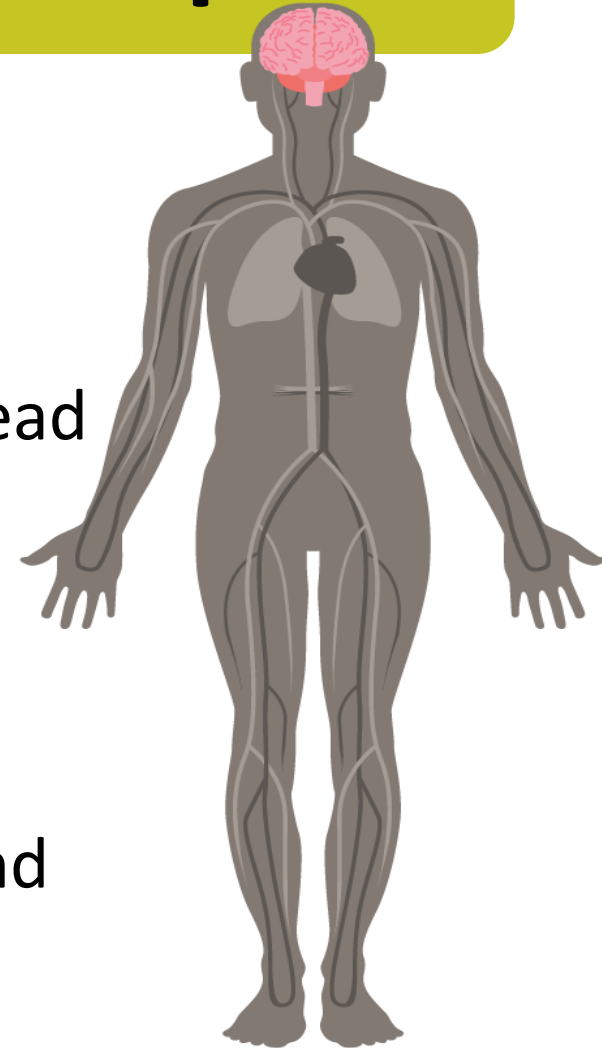
#Sepsis



What happens in Sepsis?

Dysregulated host response stimulates:

- Coagulation cascade that becomes hyperactive, causing microclots to spread
- Myocardial depression can occur
- Pathophysiologic changes that further decrease cellular oxygen availability and activate anaerobic metabolism

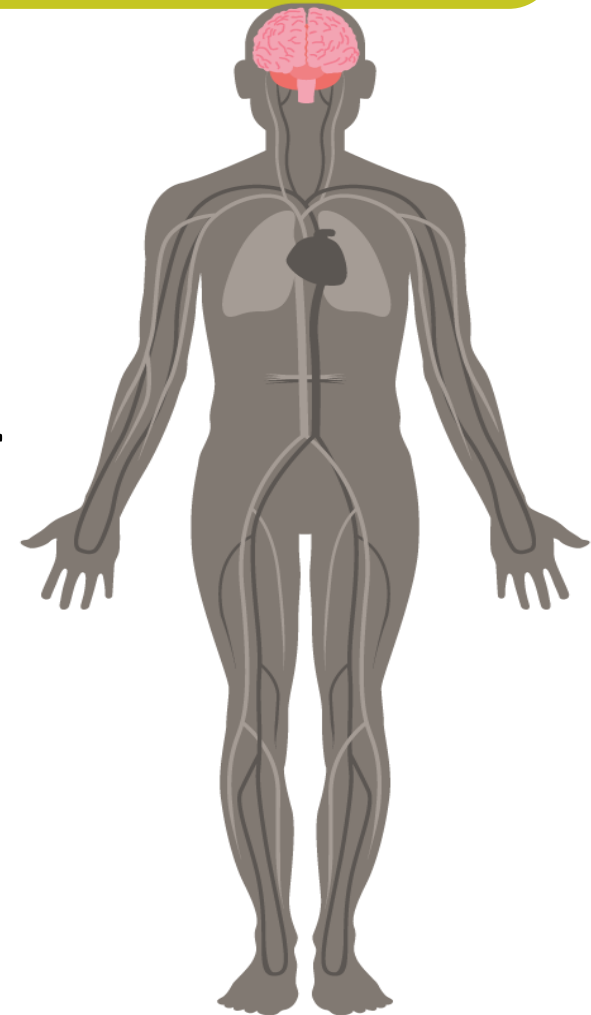


#Sepsis



What happens in Sepsis?

- Cells switch from aerobic to anaerobic metabolism
- Effectively chokes cells
- Releases excessive Lactate (**usually greater than or equal to 4 mmol/L**)
 - Causes acidosis
 - Reduces oxygen delivery to organs
 - Results in organ dysfunction

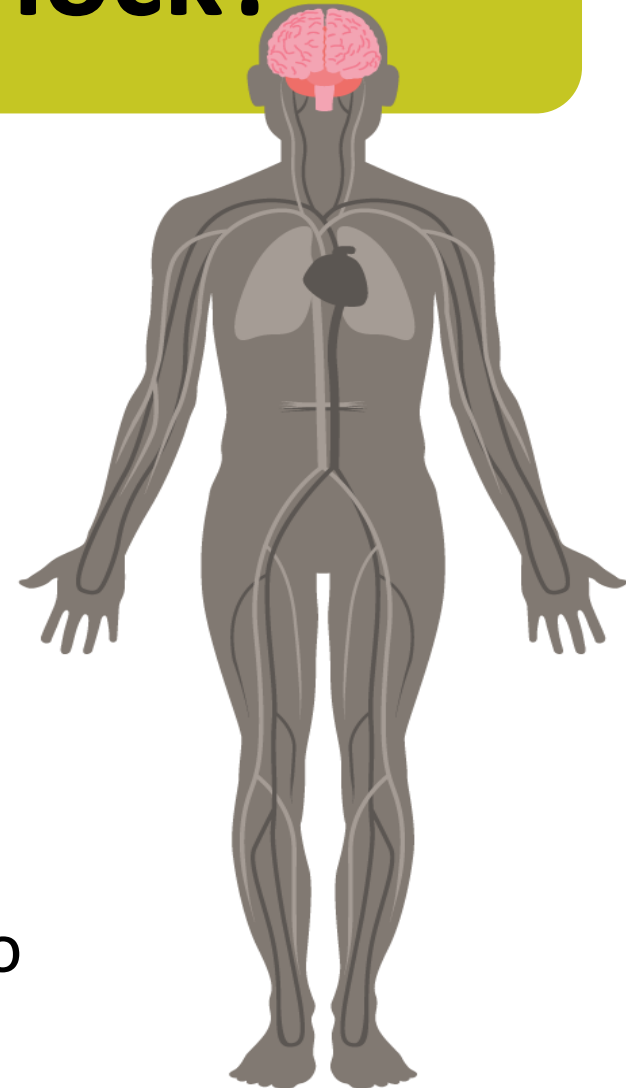


#Sepsis



What is Septic Shock?

- Consequence of uncontrolled sepsis
- Results in widespread vasodilation and increased capillary permeability or “leaky vessels”
- Leads to profound hypotension
- Hemodynamic instability that leads to insufficient blood flow to end-organs



#Sepsis



What is Septic Shock?

Marked hypotension
(<90 mmHg)

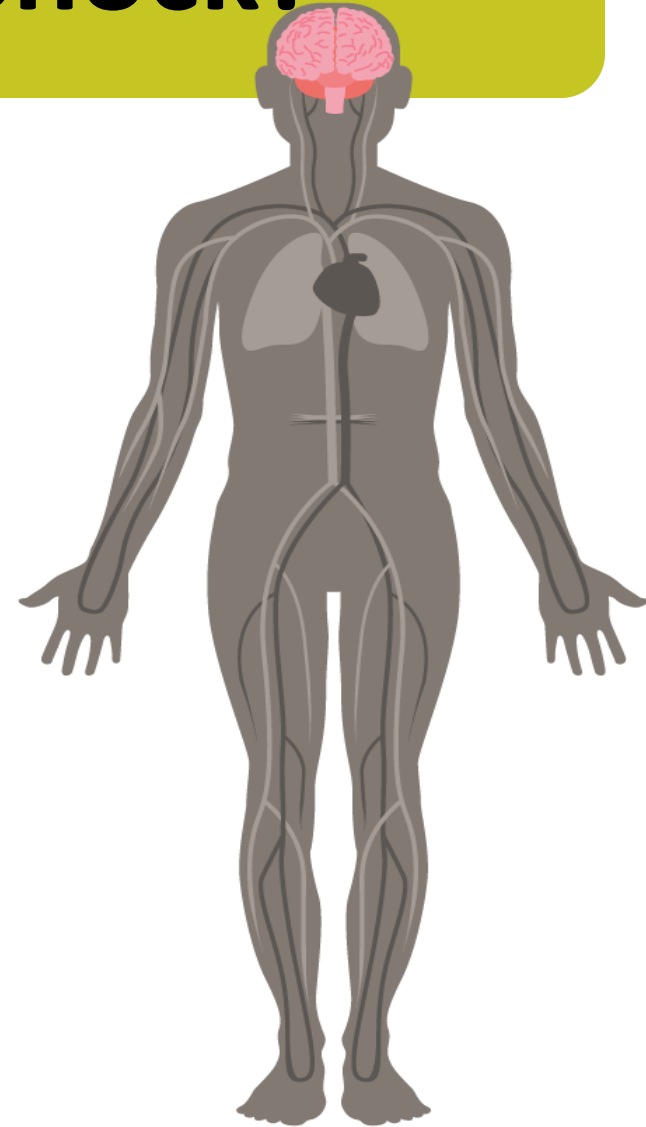


insufficient blood flow



critical reduction in perfusion
to 1 or more organs
**despite aggressive fluid
resuscitation**

A type of distributive shock that
requires **vasopressor therapy**

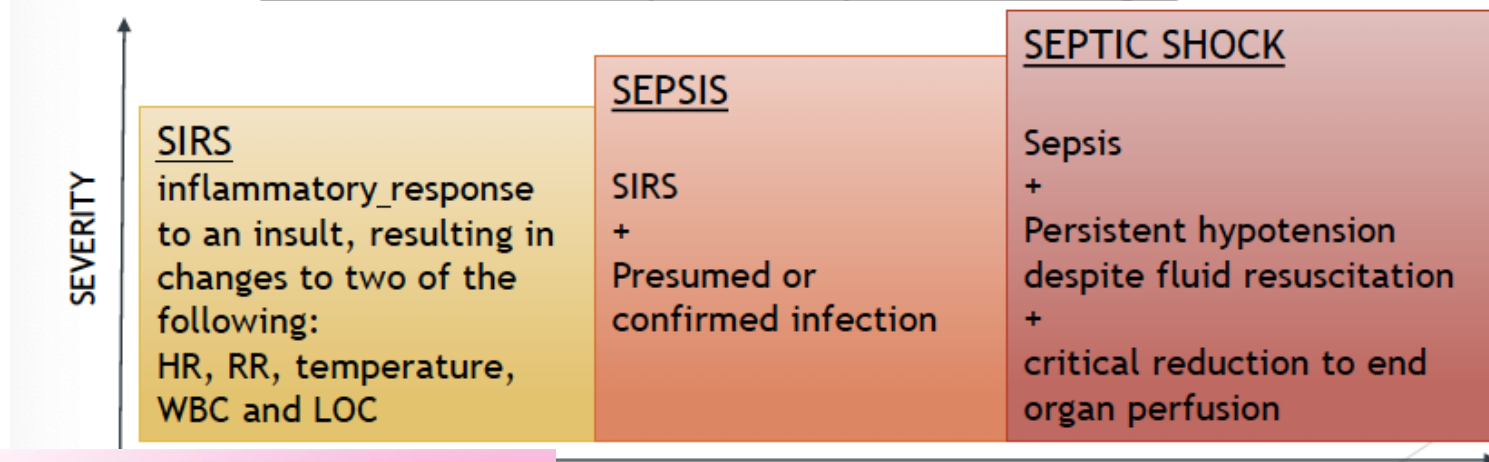


#Sepsis



In summary

The Evolution of the Septic Pathway if Left Unmanaged



WORLD SEPSIS DAY INFOGRAPHICS

PHYSIOLOGY OF SEPSIS



From a Local Infection to a Body-Wide Injury

A local infection, such as pneumonia or a severe skin infection, overcomes the body's local defense mechanisms. Invading microorganisms and the toxins they produce induce a powerful body-wide immune response.



Sepsis

This immune response to infection can be so intense that the body can lose control of it. The "dysregulated" response can result in injury to tissues and organs, and is known as sepsis.



Septic Shock and Multi-Organ Failure

Cardio-circulatory failure can develop, leading to a sudden drop in blood pressure. This is called septic shock. Several organs then stop functioning sequentially or simultaneously. This multi-organ failure often leads to death.

Infographic 5/21



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www.world-sepsis-day.org
www.global-sepsis-alliance.org

September
13
2018
World
Sepsis
Day

Clinical Review & Education

Special Communication | CARING FOR THE CRITICALLY ILL PATIENT

The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)

Mervyn Singer, MD, FRCP; Clifford S. Deutschman, MD, MS; Christopher Warren Seymour, MD, MSc; Manu Shankar-Hari, MSc, MD, FFICM; Djillali Annane, MD, PhD; Michael Bauer, MD; Rinaldo Bellomo, MD; Gordon R. Bernard, MD; Jean-Daniel Chiche, MD, PhD; Craig M. Coopersmith, MD; Richard S. Hotchkiss, MD; Mitchell M. Levy, MD; John C. Marshall, MD; Greg S. Martin, MD, MSc; Steven M. Opal, MD; Gordon D. Rubenfeld, MD, MS; Tom van der Poll, MD, PhD; Jean-Louis Vincent, MD, PhD; Derek C. Angus, MD, MPH

IMPORTANCE Definitions of sepsis and septic shock were last revised in 2001. Considerable advances have since been made into the pathobiology (changes in organ function, morphology, cell biology, biochemistry, immunology, and circulation), management, and epidemiology of sepsis, suggesting the need for reexamination.

Editorial page 757

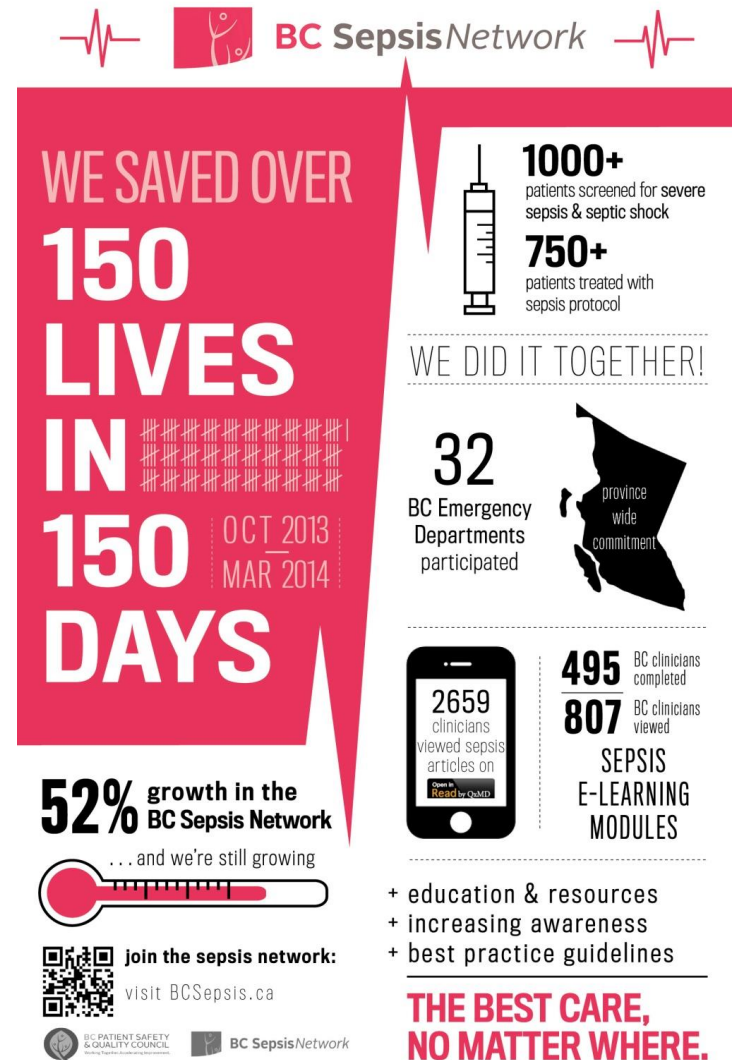
Author Video Interview,
Author Audio Interview, and
JAMA Report Video at
jama.com

#Sepsis

What are treatments for Sepsis?

1. Early administration of broad-spectrum **antibiotics**
2. Early aggressive administration of **IV fluids**
3. **Blood cultures** drawn before IV antibiotics are administered
4. Early and repeated **lactate** measurements

Sepsis Guide Improving Care for Sepsis, 2014



Inpatient Sepsis Initiative

- **Early recognition and intervention** of sepsis improves patient outcomes.
- In 2015, **VGH Medicine team led and piloted the development of Sepsis tools** tailored towards clinicians and healthcare providers.



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Sepsis Tools

BC SepsisNetwork
Sepsis Screening Tool

Does the patient have any **TWO** of the following?

- Heart rate > 90/min
- Respiratory rate > 20/min
- Temperature $\geq 38^{\circ}\text{C}$ or $< 36^{\circ}\text{C}$
- WBC $> 12.0 < 4.0 \times 10^9/\text{L}$
- Altered mental status/GCS change

AND

Does the patient have a confirmed or suspected source of infection, **OR** any of the symptoms below?

- Cough/sputum/chest pain/shortness of breath
- Abdominal pain/distension/vomiting/diarrhea
- Dysuria/frequency/indwelling catheter
- Skin or joint (pain/swelling/redness)
- Central line present
- Mottled skin, cold extremities

YES

PATIENT MAY HAVE NEW INFECTION/SEPSIS
Call physician & report assessment & findings

WATCH FOR SEVERE SEPSIS/SEPTIC SHOCK
Systolic blood pressure < 90 mmHg or
Lactate ≥ 4 mmol/L

BCPH-2019-00000000

IF YOU RECEIVED THIS FACSIMILE IN ERROR, PLEASE CALL 604-875-4077 IMMEDIATELY

Vancouver Coastal Health
VA: VGH / UBCH

ORDERS ADDRESSOGRAPH

COMPLETE OR REVIEW ALLERGY STATUS PRIOR TO WRITING ORDERS

SEPSIS IDENTIFICATION & TREATMENT ORDERS: INPATIENT
(Items with check boxes must be selected to be ordered) (Page 1 of 1)

Date: _____ Time: _____

**** Confirm Early Sepsis Investigation and Treatment is congruent with patient's goals of care ****

URGENT CONSIDERATIONS

- If patient develops hypotension (SBP less than 90 mmHg) despite initial fluid bolus, or lactate greater than 4 mmol/L, not explained by existing condition, notify physician that SEVERE SEPSIS/SEPTIC SHOCK may be present and call Critical Care Outreach Team (CCOT). Physician to consider ICU consultation

LABORATORY: All investigations are STAT

- Serum venous lactate. Notify physician immediately if lactate greater than 2 mmol/L
- Repeat lactate 2 hours after the first lactate is drawn if greater than 2 mmol/L. Notify physician of results if lactate greater than 2 mmol/L
- CBC and differential, INR, PTT, electrolytes, urea, creatinine, glucose, liver function tests, lipase, troponin
- Blood cultures X 2 sets BEFORE antibiotics (include culture from central line, if present)
- Urinalysis and urine C&S (as per VCH guidelines)
- Sputum for C&S

DIAGNOSTIC: All investigations are STAT

- Chest X-ray

INTRAVENOUS:

Initial intravenous infusion and hydration orders:

Ensure at least #20 gauge IV access is in place. May insert a second IV access as necessary.

Start IV bolus: Ringer's Lactate at _____ mL (max 2 L)
 sodium chloride 0.9% (NS) _____ mL (max 2 L)
 Plasmalyte _____ mL (max 2 L)
 Give IV fluid over _____ minutes (physician to assess post-bolus)

MEDICATIONS:

Physician to initiate appropriate antibiotic therapy

MONITORING:

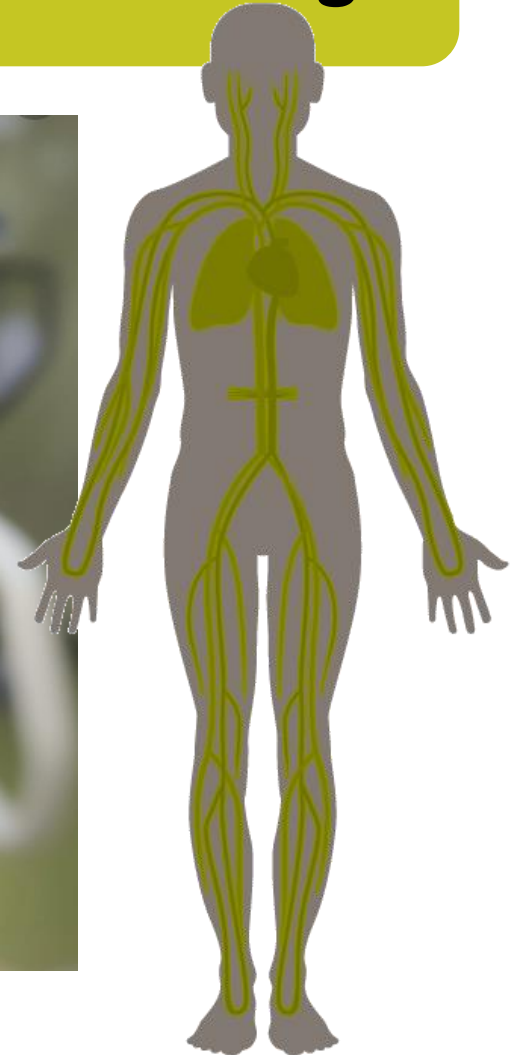
- Vital Signs and oxygen saturation Q1H X 6H, then Q4H x 12H
- Neuro Vital Signs (Glasgow Coma Score) Q1H X 6 H, then Q4H X 12H
- Monitor urine output if able – May insert a foley catheter as necessary
- Contact physician if any clinical deterioration using SBAR
- Call physician and CCOT if:
 - o Respiratory Rate less than 10/min or greater than 30/min
 - o O2 Sat less than 90%
 - o Heart rate less than 40/min or greater than 140/min
 - o Systolic BP less than 90 mmHg
 - o Sudden change in LOC
 - o Urine output less than 100 mL in 4 hours

928

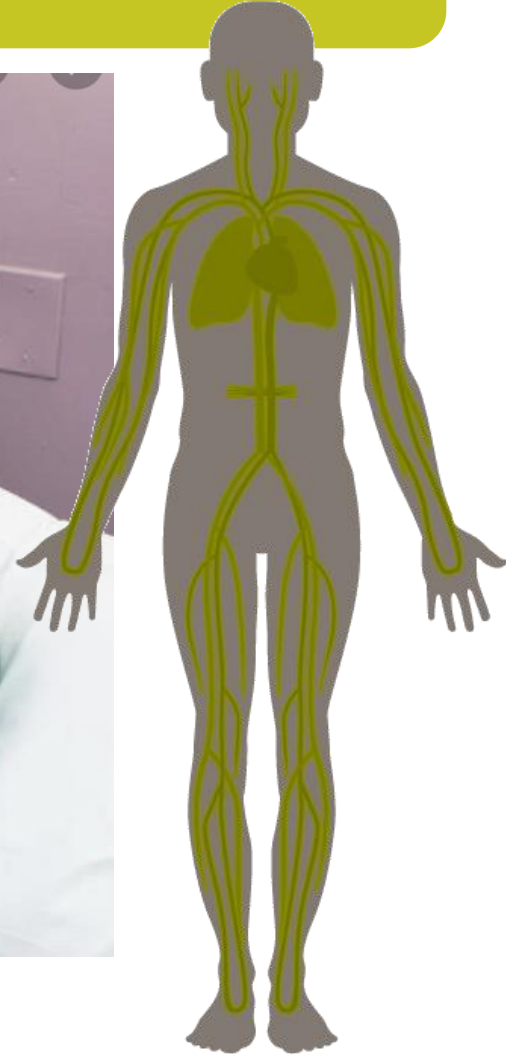
Prescriber's Signature _____ Printed Name _____ College ID _____
 VCH.VA.PPO.928 1 Rev.NOV.2015



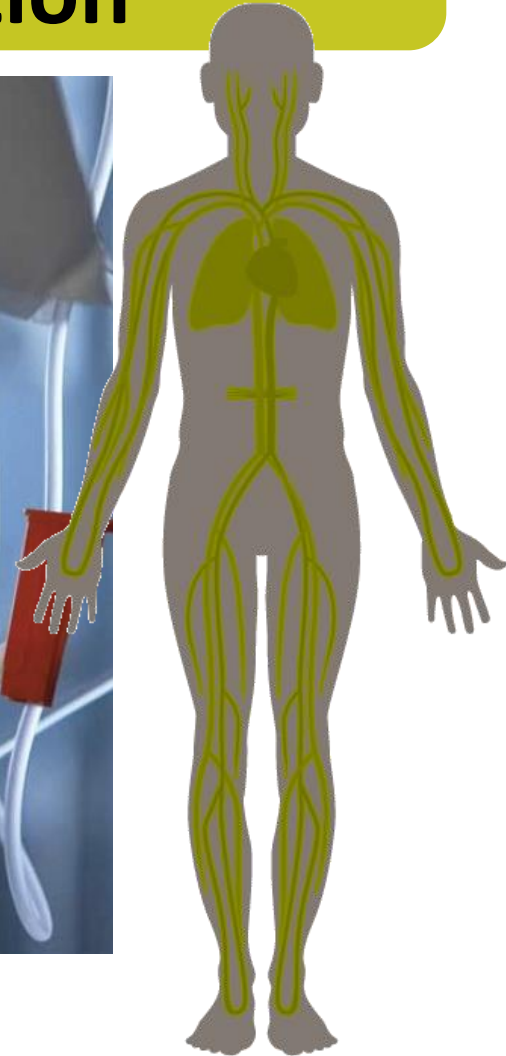
Assessment & Monitoring

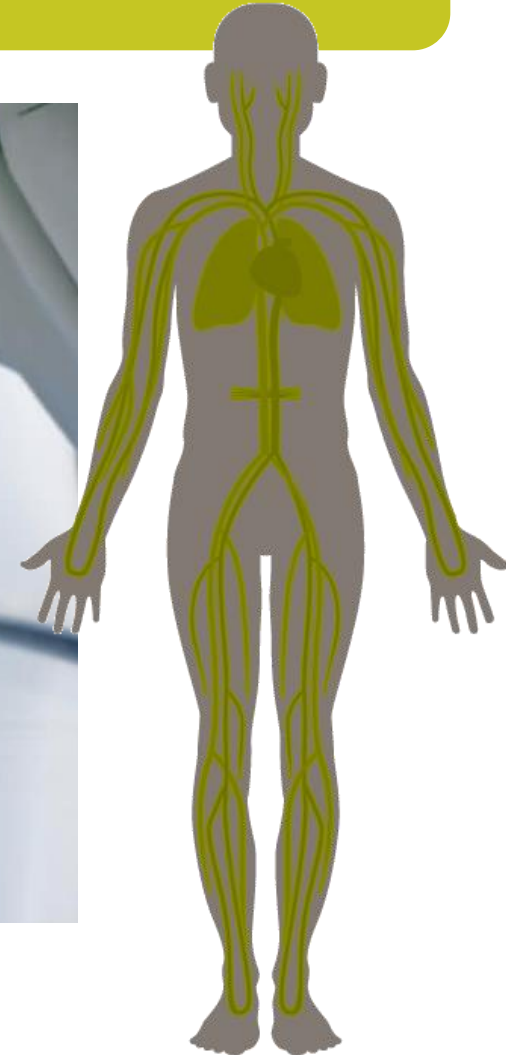


Airway & Breathing



IV Access, Fluid & Resuscitation





Original Research | 15 October 2019

Blood Culture Results Before and After Antimicrobial Administration in Patients With Severe Manifestations of Sepsis

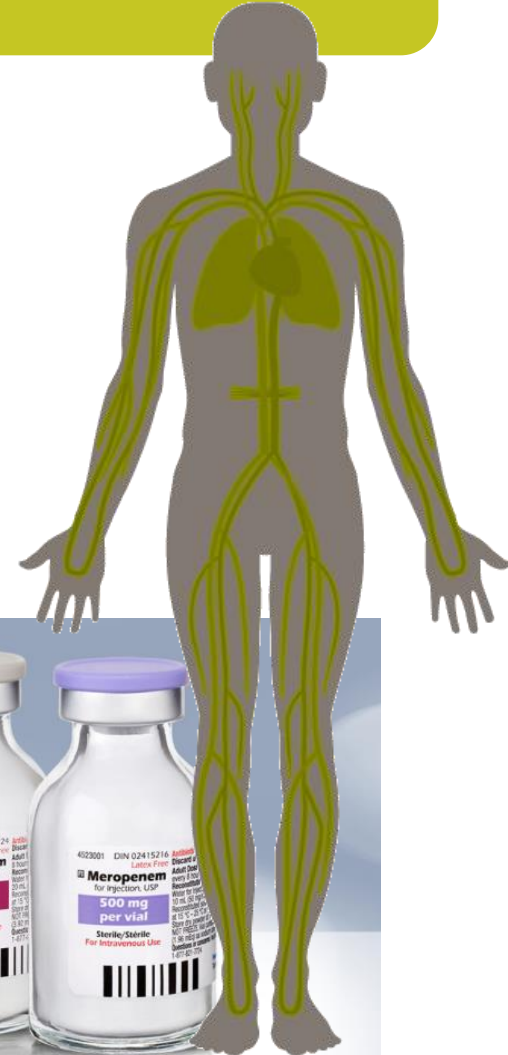
A Diagnostic Study

Matthew P. Cheng, MD, Robert Stenstrom, MD, PhD, Katryn Paquette, MD, Sarah N. Stabler, PharmD,

Murtaza Akhter, MD, Adam C. Davidson, MD, Marko Gavric, BSc, Alexander Lawandi, MD, Rehman Jinah, BSc,

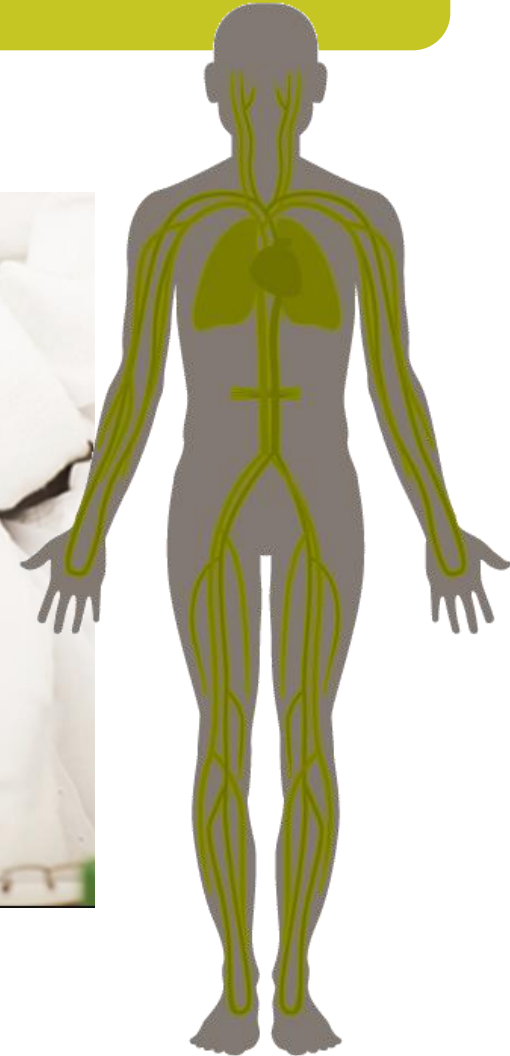
Zahid Saeed, MD, Koray Demir, MD, Kelly Huang, BSc, Amirali Mahpour, MD, Chris Shamatutu, BSc, Chelsea Caya, MSc,

Jean-Marc Troquet, MD, Greg Clark, MD, Cedric P. Yansouni, MD, David Sweet, MD, for the FABLED Investigators* See



#Sepsis

Supportive Therapy





It re-started with a Pledge...



**CHANGE
DAY BC**
17.11.17

September 11 – September 15
Sepsis Week

Sepsis is a World Health Organization global health priority. In Canada, 30,000 people are hospitalized each year from sepsis, and more than 30% of these patients die [1]. The BC Sepsis Network, partnering with care providers across BC, has worked over the last five years to make early identification and treatment a reality for more British Columbians. To align with World Sepsis Day (September 13), pledges and stories about the impact of sepsis were highlighted.

I pledge to...

Share My Pledge Story!



"I pledge to... figure out how to reconnect our sepsis work with patients and their families that have experienced sepsis. Now that we're shifting the culture towards working with our patients as partners, I want to find tools to help empower and educate patients and families on sepsis."

Jenifer Tabamo, Vancouver

@changedaybc
#changeday



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SEPSIS INITIATIVE: ENGAGING PATIENTS & FAMILIES

Joel Butler, BA, Nursing Student, Bridgit Mulligan, BSc, Nursing Student, Jenifer Tabamo, RN, MSN, CNS, Silvia Nobrega, RN, MSN, Doris Bohl, RN, BSN, Maria Azur, RN, BSN, Bhavina Kuber, RN, BScN, Mary Kruger, RN, PhD

BACKGROUND

Sepsis is a life-threatening condition that arises when the body's response to an infection damages its own tissues and organs. If not treated early, it can lead to devastating complications such as **multi-system organ failure and death**.

3rd most responsible diagnosis for patient admissions in acute medical units from VGH ED

Top 1 diagnosis for patient transfers to acute medical units from VGH ICU



Sepsis Initiative aims to engage patients and families, listen to their stories, and understand their experience of sepsis.

Patient and family experiences can inform the development of **patient-centred education tools for patients and families** that increase awareness, early recognition and prompt treatment of sepsis.

DATA COLLECTION

- n=11, 55% female and 45% male
- Age range 57-95 years old
- Diagnoses of sepsis, urosepsis, pneumosepsis, septicemia, & bacteremia



- 9 admitted in Medicine Units
- 1 admitted in Emergency Dept.
- 1 admitted to Critical Care Unit

- **Qualitative methods** using one-on-one semi-structured interviews
- **Open-ended questions** that encouraged story-telling among patients and families

THEMES & FINDINGS

Lack of awareness and poor understanding of sepsis

"I sort of heard the word sepsis but I don't know what it means."

45% of patients had never heard of sepsis.

0% had accurate understanding of sepsis.

Lack of awareness on early warning signs of sepsis

"Sometimes the patient can say they don't think they need to go to hospital. As the family, it is hard to know."

"I felt sick and like I was just getting sicker."

Lack of awareness on consequences of sepsis

Hospitalization is a stressor that patients wish to avoid.

"If I knew about how bad things could get, I would have done something sooner."

Lack of awareness on prevention of sepsis

"I need information when I was discharged with my catheter about risks, symptoms, and prevention."

36% had an infected indwelling device.

Lack of sepsis patient education and tools

"It could be pamphlets in the mail, like in medical alert renewal notices because seniors get those."

"A pamphlet to take home at discharge for people who are at risk and their family/caregivers so we know what to look out for."

64% reported that not 1 healthcare staff mentioned the word sepsis to them.

RECOMMENDATIONS

- Create **patient-centered sepsis education tools** such as pamphlets, pocket cards, learning videos and websites that are tailored to patients' and families' learning needs.
- **Simplify language** that will be used within education tools, and consider using the **SEPSIS mnemonic** developed for ease of remembering early warning sepsis signs.
- **Enhance information on sepsis** within existing health organizations in BC and Canada, make them less technical and more "patient friendly."
- **Share sepsis education and tools** such as in care provider's offices, health clinics, hospitals, care facilities, community centres, schools, mail/email, advertisements using catch phrase "**Better safe than septic**" through television, radio, newspapers, buses/bus stops or billboards, social media, support groups, public service and awareness campaigns such as "**Walk the talk on sepsis.**"

CONCLUSION

- **Listening to patient stories** strongly revealed the need for sepsis education among patients and their families with lived experience of sepsis.
- **Understanding patients' and families' experience of sepsis** helps inform, innovate and inspire development of patient-centred sepsis education tools.
- **Partnering with patients and their families** in sepsis care and prevention is a timely response in shifting practice and embracing culture change in health care.
- **Engaging patients and their families** in the early recognition and prompt treatment of sepsis will enhance hospital experience, improve patient safety, impact quality of care, and ultimately save lives.

BETTER SAFE THAN SEPTIC

S

SHIVERING

You might have chills, fever, clammy skin, or a rash. It can feel like you have the flu.

E

ELEVATED HEART RATE

It might feel like your heart is racing.

P

PAIN

You might feel new or different pain, or discomfort.

S

SLEEPY

You might feel confused or like you have less energy than usual.

I

"I FEEL WORSE THAN EVER"

You might be sick and worried that you are not getting any better.

S

SHORT OF BREATH

You might feel out of breath or have trouble breathing.

Langara.

THE COLLEGE OF HIGHER LEARNING.

Vancouver Coastal Health

Promoting wellness. Ensuring care.

References available upon request



Sepsis Storybook Project



BMJ 2017;359:j5565 doi: 10.1136/bmj.j5565 (Published 13 December 2017)

Page 1 of 5



FEATURE

CHRISTMAS 2017: LANGUAGE AND LITERACY

Santa's little helpers: a novel approach to developing patient information leaflets

Asking children to design information leaflets may improve patient understanding of surgical procedures, say **Catrin Wigley and colleagues**

Catrin Wigley *foundation year one doctor*¹, Vittoria Bucknall *speciality registrar*², Simon Fleming *speciality registrar*³

¹University Hospitals Coventry and Warwickshire NHS Trust, Coventry CV2 2DX, UK; ²Royal Infirmary of Edinburgh, Little France Crescent, EH16 4SA; ³Barts Health Whitechapel, London E1 1BB, UK

Obtaining valid consent before any intervention is a legal and ethical principle that underpins patient autonomy.¹ For consent to be valid, the patient must have received sufficient information and understood the nature and purpose of the procedure.²

Reading age of 9 years

This led us to ask the question, what does a reading age of 9 look like and how does it compare with the patient information



Sepsis Storybook Project

Levels of literacy in Canada (2013)

Literacy Level	Description of Skill Level	% of adults*
1	Poor readers	17%
2	Narrow readers	32%
3	Adequate skills	38%
4 & 5	Highest skills	14%

*Numbers total 101% due to rounding

Adults in Levels 1 and 2 have limited scope for understanding health information.

Literacy stats for BC

- Over 500,000 British Columbians have significant challenges with literacy. (16% of British Columbians are at Level 1 literacy or below.)⁽²⁰⁾
- Due in part to limited literacy skills, 45% of British Columbians aged 16 to 65 have difficulty in accomplishing some daily living tasks including filling out a form, comparison shopping and understanding instructions. (These are individuals who are at or below Level 2 literacy in the latest OECD international adult literacy survey.)⁽²⁰⁾
- Due in part to limited numeracy skills, 52% of British Columbians aged 16 to 65 have difficulty in accomplishing some daily living tasks, including reading a scale, using information on a graph, creating a budget and calculating dosage for children's medicine. (These are individuals who are at or below Level 2 numeracy in the latest OECD international adult literacy survey.)⁽²⁰⁾
- Overall, higher levels of education are associated with higher level of skills, but results indicate that a proportion of those with higher levels of education score at the lowest level of skill and some with lower levels of education perform at the highest level of skills.⁽²⁰⁾



Sepsis Storybook Project

Plain Language

- Canadian Public Health Association recommends use of "Plain language" with material written at a **grade 4 to 6** levels.

When I had strep throat I was given Tylenol with codeine. I couldn't read the information sheet that explained the side effects. The pain eased off, but I thought I was having a bad reaction, so I had to call the hospital to have the side effects explained.

-Adult Learner

UNIT 5 *Plain Language Health Information*

SEE PAGES 41 -48 FOR IDEAS ON EDUCATION MODULE FOR WORKSHOP.
http://en.copian.ca/library/learning/cpha/easy_does_it/easy_does_it.pdf



Sepsis Storybook Project

July 2018

Sepsis Initiative: School-aged children Workshop
Lesson Plan

1.5 hours

Time	Key Concept	Content	Instructional Strategies/Activities
5 min	Welcome remarks	<p>Introduce self as a nurse working in the hospital and “primary teacher” in the workshop</p> <p>Introduce research team member as assistant</p> <p>Identify participants</p> <p>Review brief outline of workshop</p>	<p>Use of guided question such as “Have you ever been sick in the hospital?”</p> <p>Group discussion</p>

BETTER SAFE THAN SEPTIC

S SHIVERING
You might have chills, fever, clammy skin, or a rash. It can feel like you have the flu.

E ELEVATED HEART RATE
It might feel like your heart is racing.

P PAIN
You might feel new or different pain, or discomfort.

S SLEEPY
You might feel confused or like you have less energy than usual.

I "I FEEL WORSE THAN EVER"
You might be sick and worried that you are not getting any better.

S SHORT OF BREATH
You might feel out of breath or have trouble breathing.



Sepsis Storybook Project

Sepsis

How does Sepsis develop?
 Sepsis happens when you have a wound and you don't take great care of it. germs goes into your blood. A other way to get it, is scratching a healing wound.

WHO have the risk of getting Sepsis?
 - everyone has the risk of getting sepsis, mostly people that do sports and don't take good care of the wounds.
 - But, people that of the age of 65 and over have a very BIG chance of getting it.

How do you care about Sepsis?
 The doctors will send the patient to the hospital and give them an organ and use antibiotics - wash your hands, keep cool in summer.

What exactly is sepsis?
 you will have a fever, your heart will beat fast and you might lose your breath.

How do you feel?

- Shivering
- Excitation
- Pain
- Sleepy
- I feel worse than ever
- Short of breath

Do you want to know about a outrageous disease called sepsis?

What is sepsis?
 sepsis is a disease that comes when someone has an infection.

How do you prevent Sepsis?

- wash hands thoughtly
- brush teeth
- treat wounds
- get a vaccine from the doctor

who is at the risk for getting sepsis?

- people who the age 65
- Older are no to catch sep

How is sepsis treated?

Shivering
 Elevated heart rate

A long time ago a man named BOB had a infection. He went to his family doctor to see if they can help him. So they gave him medicine 5 days later. He felt worse. He went to the hospital! They told him that he had SEPSIS! He died SEPSIS WAS **GOOD!** BUT then the doctors told him it was **BAD VERY BAD!** So he was taking care of his body better he came back in a few months, AND him was better. TAKE GOOD CARE OF YOUR BODY!

WHAT IS SEPSIS?
 - it is a very bad infection.
 - but only doctors can solve.

How do you get SEPSIS?
 - when you have a bad infection. Sepsis comes and can make it worse!
 - **NOT** taking good care of your body!

WHAT ARE THE SIGNS OF SEPSIS?

- S: Shivering
- E: Elevated heart rate
- P: Pain
- S: Sleepy
- I: I AM NOT GETTING BETTER!
- S: Shortness of breath!

How to cure SEPSIS?

- brushing teeth well!
- taking care of cuts/wounds
- ~~stay~~ CAT food food! **NO** junk food!

P.S. Sepsis mostly happens to people's old

Sepsis starts when a wound is treated properly it gets infected will get worse.

After the wound gets worse the person feels Shivering -

Elevated heart rate -

Pain -

Sleepy -

I feel worse than ever -

Short of breath -

Braendon

What is sepsis? A: sepsis is an infection that starts with an immune system.

Q: Who is at risk of sepsis?
 A: every body.

Q: What are the symptoms of sepsis?
 A: - shivering
 - raising heart rate
 - breathing quickly

Q: How do you prevent it?
 A: Stay off drugs
 - Don't smoke
 - take care of your teeth
 - sleep well
 - eat wisely

Advice: always be safe and take care of yourself and everybody else's

Sepsis Diagram

- S: Shivering
- E: elevated heart rate
- P: Pain (stomach)
- S: sleepiness
- I: "I feel like I'm gonna die"
- S: Shortness of breath

Elders 60 or 65 years old are most likely to have Sepsis because their organ system become weak.

A kid's guide to Sepsis: A medical Emergency

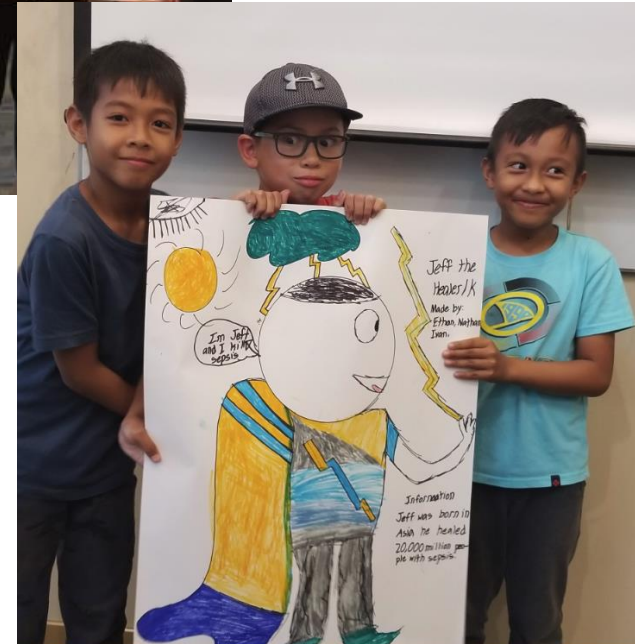
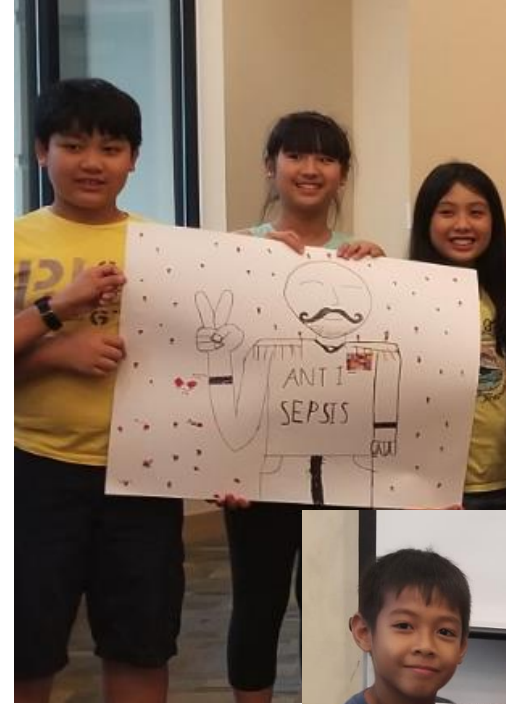
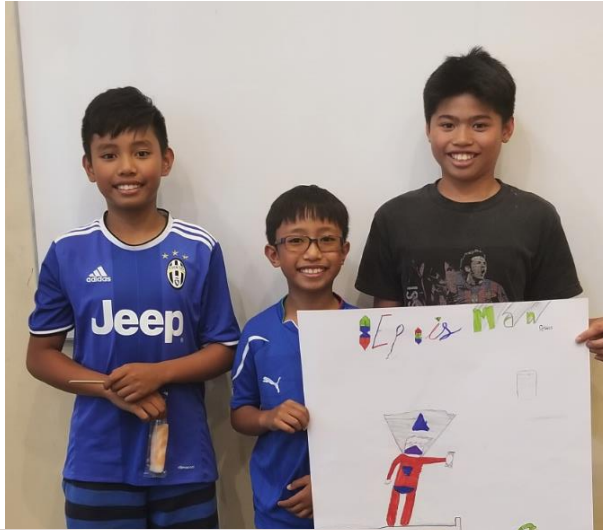
What IS sepsis?

Sepsis is a life-threatening illness that can **KILL**. Some people don't know about this.

#Sepsis



Sepsis Storybook Project



Sepsis Storybook Project





Sepsis Pamphlet

How Can You Prevent Sepsis?

- 1. Hand hygiene**
Wash your hands thoroughly by using soap and water, or alcohol-based hand rubs. Common infections are spread by hands.
- 2. Oral hygiene and perineal care**
Prevent infection of lungs and bladder by having good oral health and personal hygiene.
- 3. Managing chronic illness, and taking good care of wounds and indwelling devices**
Remember to take prescription medication as ordered, clean wounds as needed using clean technique, and take care of indwelling devices.
- 4. Standard and up-to-date vaccinations**
Make sure you receive all the vaccinations that are recommended for you.



Learn more about sepsis and how to prevent infections:
www.cdc.gov/sepsis

Learn how BC supports sepsis best practice:
<https://bcpsqc.ca/improve-care/bc-sepsis-network/>

Learn how global leadership aims to raise awareness for sepsis worldwide:
<https://www.global-sepsis-alliance.org/>



Better Safe Than Septic

SEPSIS

What You Need to Know as a Patient



What is Sepsis?

Sepsis is the body's extreme response to an infection. It is life-threatening, and without timely treatment, sepsis can rapidly lead to tissue damage, organ failure and possibly death.

Who is at risk of developing Sepsis?

- Anyone can get an infection. Any infection can lead to sepsis. Specific groups are at higher risk:
- Adults 65 years of age or older
 - Anyone with a weak immune system
 - Anyone with chronic illnesses
 - Anyone who receives treatments that involve insertion of medical objects into the body like urinary catheters, indwelling vascular lines, implanted devices and others.

What are the signs and symptoms of Sepsis?

Do you have any of the following? Think **SEPSIS**.

- S** **SHIVERING** You might have chills, fever, clammy skin and feel like you have the flu.
- E** **ELEVATED HEART RATE** It might feel like your heart is racing.
- P** **PAIN** You might feel new or different pain or discomfort.
- S** **SLEEPY** You might feel confused, disoriented or like you have less energy than usual.
- I** **"I FEEL WORSE THAN EVER"** You might be sick and worried that you are not getting better.
- S** **SHORT OF BREATH** You might feel out of breath or have trouble breathing.



What are treatments for Sepsis?

Sepsis is an emergency and needs to be treated right away.
If you have any of the symptoms and an infection that is not getting better or is getting worse, speak to a healthcare professional right away, or ask your doctor or nurse **"Could this be 'Sepsis?'"**

Each person is different. Blood works, diagnostic tests, antibiotics and intravenous fluids may be urgently needed to treat infection, prevent organ damage, and stop a drop in blood pressure. **Sepsis can get worse over time, so it is best to act early.**

How can you prevent Sepsis?

- 1. Hand Hygiene.** Wash your hands thoroughly by using soap and water, or alcohol-based hand rubs. Common infections are spread by hands.
- 2. Oral Hygiene and Perineal Care.** Prevent infection of lungs and bladder by having good oral health and personal hygiene.
- 3. Managing chronic illnesses, and taking good care of wounds, and indwelling devices.** Remember to take prescription medication as ordered, clean wounds as needed using clean technique, and take care of indwelling devices.
- 4. Standard and up-to-date vaccinations.** Make sure you receive all the vaccinations that are recommended for you.

Prevention is key. Knowing the signs and seeking early treatment can stop the progression of sepsis. **Better Safe than Septic.**



PATIENT APPROVED PUBLIC Making better decisions together with patients and families

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www.vch.ca



Sepsis Survival Stories

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Home > Improve Care > BC Sepsis Network > Sepsis Survival Stories > Sepsis Survival Stories: Bob Strain

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National Surgical Quality Improvement Program – BC Collaborative Page


Substance Use

Releasing Time to Care

Resources

Team-Based Primary and Community Care

Sepsis Survival Stories: Bob Strain



Today I bounded from bed at my usual get-up time of 6 am. Shaved and dressed up, I emerged into the glorious morning sunlight. My daily walk through the neighbourhood filled another invigorating hour before I enjoyed breakfast. Emails, Google searches and a few chapters of a crime novel consumed several more hours before a delicious lunch prepared by Anne was served. A lazy afternoon included a 1960's rerun of Gunsmoke, to which I was addicted, followed by research and writing activities as I chronicled a current literary project. Due to the summer heat, I postponed a bicycle run I had planned. Instead, I arranged for the family to attend a folk-singer's concert in Mission, and friends accompanied us

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Team-Based Primary and Community Care

Sepsis Survival Stories: Richard Cave



My name is Richard Cave and I am a survivor of sepsis. I am an above-knee amputee as of September 22, 2016. Since 2013, I have undergone 18 surgeries for vascular disease and diabetes. I'm a certified Peer Councillor for the Canadian Coalition of Amputees and volunteer every Tuesday at Peace Arch Hospital to council new amputees and heart/stroke victims. I'm also a patient partner at Peace Arch and Delta Hospitals, working on various committees within the hospital structure to provide a patient's perspective to health services.

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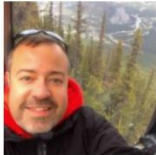
Substance Use

Releasing Time to Care

Resources

Team-Based Primary and Community Care

Sepsis Survival Stories: Scott Harrison



I started the summer of 2017 as a healthy 45-year old health care professional with well-controlled diabetes. Over the summer, a new diabetic medication was added to my treatment plan – one of the new “wonder drugs” for diabetes. One of the possible side effects was risk of infection, and despite all the precautions, I had the bad luck of contracting a bladder infection. This progressed to a kidney infection and didn't get better despite two rounds of antibiotic treatment. I developed a chest infection which I put down to a bad cold that was going around, and over the course of a few days I continued to get worse and worse. I ended up feeling so incredibly ill – I thought I was dying – that late one night we went to our local Emergency Department.

I felt breathless, had a fever, was dizzy and my heart was pounding. At triage, a nurse took my vital signs and immediately whisked me into the trauma room, where I was quickly surrounded by nurses and doctors

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Team-Based Primary and Community Care

Sepsis Survival Stories: Stanley Namox



Stanley Namox is from Witset, Thin (Gifyu) House Clan, located in Northern BC. N'ik is Stanley's Chief Name. To the BC Sepsis Network, Stanley is a recent patient partner with the Patient Voices Network who has many stories to tell. In this interview, Stanley recounts his experience with sepsis as a result of pneumonia, what he noticed that caused him to seek medical attention and what he would like to share with other patients, families and health care providers. Stanley is leading the way on how to respect and treat one another the way you would want to be treated.



“My Sepsis Story”



NAME: Russell

MY SEPSIS STORY

It all happened so fast that I didn't realize what was actually happening. My patient had gone into sepsis and there were very clear signs as I reflect back on that incident. It all started when my patient asked for assistance to the bathroom. Keep in mind this patient was completely fine up until this point. Suddenly, he began to shake. It was a shivering movement that would not subside even as I attempted to give him warm blankets. He appeared cold, shivering constantly even though the temperature in the room was warm. The chills did not recede and I remember beginning to feel a moment of fear. I quickly took his temperature, and found it to be significantly high. His heart rate also went up to the 100s, where he was previously sitting at a comfortable rate. His breathing began to change from tidal to became laboured and more rapid. He looked short of breath as he sat on the toilet. Luckily for me, the outreach team happened to be right outside his room, as they had just finished assessing another patient. They grabbed their attention and told them what was happening. With their support, we were able to make interventions for my patient. This all happened within the span of 2 hours!



NAME: Tony

MY SEPSIS STORY

At first, I was hesitant to share this story, because my experience I am about to tell you is not a success story. It is a story of my learning and it still makes me somewhat regretful and ashamed of myself for not knowing enough and for being tunnel-visioned, because this led to the patient's gradual deterioration. However, I believe this experience did prepare me to become a better nurse, and I hope that sharing my story might help new grad nurses to better care for their patients presenting with suspected sepsis.

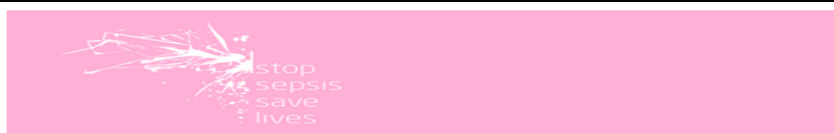


NAME: Savannah

MY SEPSIS STORY

My "aha!" sepsis story begins with the first day shift of my set. During that day shift, our unit clinician let us play a kahoot game on sepsis. The game was all about recognizing the signs of sepsis (which yes we all learned in nursing school), but it was a fantastic reminder for everyone. She explained how sepsis can lead to septic shock, and how important it was to notice early signs. I won that kahoot and it was then I decided I would become the sepsis champion. I pondered sepsis for a while that day; how it was a leading cause of death around the world but how it doesn't get blamed a lot of the time in statistics because the infection does instead. This made me see sepsis like a ninja. A ninja I would reveal to my unit the best I could.

The next day shift we receive onto our unit a patient admitted from ER. The primary nurse did his vitals, and recognized his heart rate was >90 and temperature >38. She was concerned and reported to the doctors. Over hearing the situation, I went over to help and saw the patient cough up thick greyish-yellow sputum. He was diaphoretic and had a ill appearance. AHA! The patient was tachycardic, febrile and coughing up sputum (a suspected infection). The sepsis ninja was at work here. We ensured the doctors were aware, and fluids and IV antibiotics were started and blood work was drawn including blood cultures and lactate.



NAME: Nicole L

MY SEPSIS STORY

It was a nice summer day outside of AMU & morning assessments were going swimmingly. One of my patients was a 65 year old man who was previously healthy admitted with a new diagnosis of brain cancer. The patient was alert and oriented x4 and vitals in the AM were stable. After arriving back from coffee break my patient had an acute change with his mental status and became very confused. Looking at his morning labs his WBC had gone from 15 to 21. I recognized that the patient may have been showing early signs of sepsis and reported my findings to CTU, and was dismissed. The team believed that the confusion and elevated WBC was due to an inflammatory response from the patient's cancer/brain mets. After speaking with fellow colleagues about the situation they agreed with me that this did not seem to be the case. I spoke with the CTU team again expressing my concerns & they eventually ordered antibiotics for the patient. By the next day and after a few doses of antibiotics the patient's WBC had started decreasing and the patient was back to GCS of 15, he was a completely different person (in a great way!). I'm so grateful I listened to that gut feeling & for my amazing colleagues for sharing their knowledge, expertise and support everyday! ☺

A SEPSIS SOLILOQUY

If your patients a little tachy and their brain is going wacky

Express this... is it sepsis?

If their feeling short of breath and the white blood count's a mess

Express this... is it sepsis?

When your patients breathing fast and the fever hasn't passed

Express this.. is it sepsis?

#BetterSafeThanSeptic

Working with a supervising RN. On as **Acute Cholecystitis**. This patient drain bile to a Jackson-Pratt and undiced and tachypneic with a at distress as she was moaning and frequent emesis episodes. The patient's vitals were 158/92, and was tachycardic. Her oxygen saturation was decreased to bases from 92. A respiratory coverage doctor was called,



NAME: Alison

My years ago, in a land far, far away: I had a very low urine output. Their output had been drilled into to me on surgical clear lung fields and no significant output and dropped roughly 50 points from that that morning. Concerned, I called the physician. I worried it's my communication barrier since then ☺



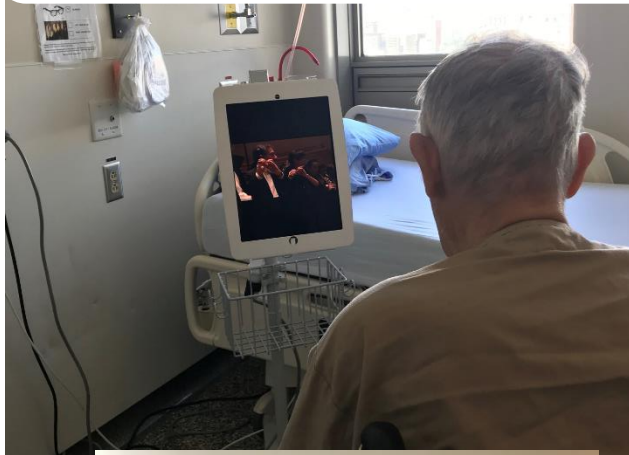
Sepsis iPad-on-wheels



#Sepsis



Sepsis iPad-on-wheels



#Sepsis



World Sepsis Day (WSD) Celebration 2019!



Knowledge Translation (KT) Sepsis Project

Project Goal

Shifting current practice and culture towards partnering with patients and their families in sepsis care in the Medicine Units

Project Objectives

Increased patient and family awareness of sepsis

Increased patient and family knowledge of early sepsis signs

Improved partnership between care team, and patients and their families in sepsis care and prevention

Project Components

Leadership Support

- Senior Executive
- Operations Director
- Managers
- Sepsis Physician Clinical lead
- VCH Foundation
- BCPSQC & BC Sepsis Network

Stakeholders Engagement

- patients & families
- CEAN patient advisor
- academic mentor
- community researcher
- school-aged children
- Nursing team
- Allied Health team
- Physician team

Development of enhanced practice and tools

- patient and family recruitment and interviews
- workshops for school-aged children
- focus groups for nursing and care teams
- graphic design of teaching tools

Implementation Integration of enhanced practice

- TBQI huddles
- iCare Rounds
- Short in-services and ongoing reinforcement
- Intentional Rounding with use of teachable moments

Evaluation

For patients and Families:

- Pre and post questionnaire
- Satisfaction Surveys

-For Care teams:

- Focus groups

- Sepsis Rates

Sustainability Dissemination

- Enhanced practice change embedded within workflow
- Orientation and education programs
- VCH Support
- BCPSQC and BC Sepsis Network
- HealthLink BC

Proposed Timeline

November 2017 – May 2018

May 2018 - February 2019

March 2019 – September 2019

October 2019 – December 2019

January 2020– Summer 2020

- Pre-implementation background work
- Information sharing with project team, CEAN patient advisor, academic mentor and community researcher
- Communication with leaders and teams
- Ethics Application

- Patient and Family recruitment and interviews
- Workshops with school-aged children in simplifying language
- Focus Groups with Care Staff in enhancing bedside patient teaching on sepsis

- Introduction of practice change: partnering with patients and families in sepsis care
- Development of sepsis patient pamphlet, pocket cards and sepsis teaching checklist
- Integration of enhanced practice, and patient pamphlet into PHEM, current inpatient sepsis initiative, orientation processes and documentation systems

- Post intervention evaluation
- Ongoing peer coaching and teamwork to facilitate uptake
- Analysis, evaluate & modify process and tools as needed

- Sharing of findings with internal VCH structures and teams
- Sharing of findings to external structures such as other health authorities, BC Sepsis Network and HealthLink BC
- Newsletter submissions
- Conference presentations
- Manuscript for publication

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