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KDHE-KHC Syndromic Antibiotic Stewardship Series

Session #1 – April 5 – Focused Initiatives for the Prevention and Treatment of UTI

Session #2 – May 3 – Focused Initiatives for Wounds, Skin, and Soft Tissue

Session #3 – June 7 – Focused Initiatives for Upper & Lower Respiratory Infections

Session #4 – July 12 – Focused Initiatives Directed Toward Sepsis

Session #5 – August 2 – Focused Initiatives Directed Toward Shorter Courses and Reducing Prophylactic Antimicrobial Use

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Continuing Educational Credit Instructions

Steps to Obtain CNE or CPE:

1.

Fill out the CNE or CPE Sign-In Form

2.

Participate in the polls. **Each participant must be logged in separately.**

3.

Email **fully** completed form to: jdaughhetee@khconline.org

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Presenters


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Objectives

- Discuss the epidemiology and pathogenesis of wounds, skin and soft tissue infections
- Identify and implement evidence based antibiotic stewardship initiatives directed towards wounds, skin and soft tissue infections
- Differentiate effective communication strategies to optimize antimicrobial choices

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Epidemiology - Cellulitis


- 14.5 million diagnosed annually
- 650,000 hospital admissions
- 10% of all infectious disease related hospitalizations
- Nursing homes: 3rd most common infection diagnosed
- Most common skin diagnosis
 - >50% of antibiotics ordered by off-site providers
 - <50% had documented follow-up

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Mimics

- Retrospective review: 31-74% inpatients initially diagnosed with cellulitis were given alternative on further evaluation
- Cellulitis was most frequently misdiagnosed condition among all dermatology consultations



Bilateral:
Varicose
eczema aka
venous stasis

versus



Cellulitis:
unilateral, well
demarcated

Sources: Cutler T., et al. J Hosp Med. 2023; 18: 254-61; Strazzulla L, et al. J Am Acad Dermatol. 2015; 73(1):70-75. ; Kroshinsky D., et al. JAMA Dermatol. 2016; 152:477-80.

Image Sources: Primary Care Dermatology Society

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Differential

Diagnosis	Cellulitis	Non-infectious
Location	• Unilateral	• Bilateral
Acuity	• Sudden	• Chronic
Associated Symptoms	• Warmth • Pain	• Itching • Burning (could be infection)
Appearance	• Well-demarcated	• Hyperpigmented • Flaky or shedding

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Red Legs

Chronic
(non-infectious)

Unilateral

Contact dermatitis

Tinea

Stasis dermatitis

Bilateral

Lipodermato sclerosis

Acute

Infectious

Non-infectious

Gout

Vasculitis

DVT

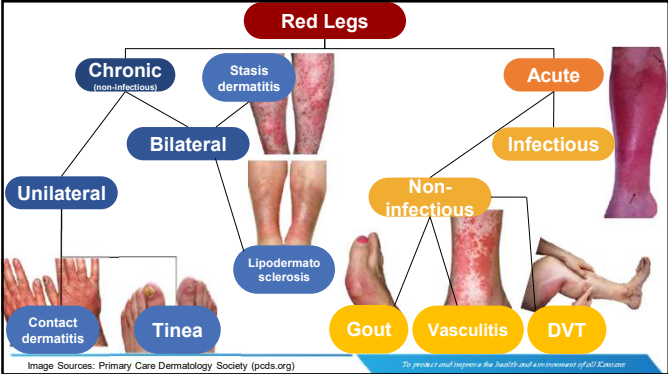


Image Sources: Primary Care Dermatology Society (pcds.org)

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Kansas Healthcare Collaborative -
khconline.org

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Diagnosis: ALT-70

Model for predicting presence of true cellulitis in the Emergency Department (ED)

- Asymmetry
- Leukocytosis
- Tachycardia
- Age

ALT-70 Score for Cellulitis

Predicts likelihood of true cellulitis (positive score other diagnosis)

INSTRUCTIONS
Use in adult patients presenting to the ED with a red, hot, and clinical concern for cellulitis. Do not use if visible abscess/furuncle, penetrating trauma, burn, diabetic ulcer, burn/wound, post-operative patient, or recent (within 48 hrs) IV antibiotic use.

When to Use: Priority/Prohibit: Why Use:

Asymmetry:

Age <70 years:

WBC <12,000/mm³:

HR <100 bpm:

5 points
ALT-70 score

Treat
+40-70 likelihood of true cellulitis

MDcalc.com

Sources: Raff A, et al. JAAD. 2017; 625. Singer S et al. JAAD. 2019; 1252-56; Li D, et al. JAAD. 2018;79(6):1076-80.

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Guidelines

Example Guidelines			
Condition	Pathogens	Treatment	Duration
Impetigo		Topical mupirocin 2% three times daily	5 days
If numerous lesions	Staphylococcus spp Streptococcus pyogenes	Cephalexin 500 mg TID to QID or Cefadroxil 500 mg BID	5 days
		Penicillin Allergic Alternative: Amoxicillin/clavulanate 875 mg BID Amoxicillin 500-875 mg BID to TID	
Erysipelas	Streptococcus pyogenes Beta-hemolytic strep	Penicillin Allergic Alternative: Amoxicillin/clavulanate 875 mg BID Clindamycin 300 mg QID	5 days

Sources: Stevens D, et al. CID 2014; 59(2): e10-52; Stojewski M, et al. CID 2006; 46 suppl 5: s368-77; Daum R et al. NEJM 2017; 376:2545-55.

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Guidelines

Example Guidelines			
Condition	Pathogens	Treatment	Duration
Non-purulent cellulitis	Streptococcus pyogenes / beta-hemolytic strep Staphylococcus spp	Cephalexin 500 mg TID to QID or Cefadroxil 500 mg BID	5 days (may extend based on response)
Non-purulent cellulitis with MRSA risk factors*	Staphylococcus spp MSSA MRSA	Cephalexin or cefadroxil PLUS Bactrim 1-2 DS tab BID or Doxycycline 100 mg BID Penicillin Allergic Alternative: Clindamycin 300 mg QID	5 days (may extend based on response)

* MRSA Risk factors: prior MRSA infection or colonization, close contact with MRSA, high community prevalence, crowded living conditions (homeless shelters, military barracks, prison), contact sports (wrestling, football), IV drug use

Sources: Stevens D, et al. CID 2014; 59(2): e10-52; Stojewski M, et al. CID 2006; 46 suppl 5: s368-77; Daum R et al. NEJM 2017; 376:2545-55.

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Guidelines

Example Guidelines			
Condition	Pathogens	Treatment	Duration
Purulent cellulitis with drainable collection	MSSA MRSA Beta-hemolytic strep (less common)	Perform Incision and Drainage (I&D) Adjunctive antibiotics are recommended in certain scenarios if drained* * abscesses >2 cm, extensive disease (multiple abscesses or multiple sites of infection), clinical signs or symptoms of infection, inadequate response following I&D, immunosuppression	5 days (may extend based on response)
Purulent cellulitis WITHOUT drainable fluid collection	MSSA MRSA Beta-hemolytic strep (less common)	Bactrim 1-2 DS tabs BID or Doxycycline 100 mg BID	5 days (may extend based on response)

Sources: Stevens D., et al. CID 2014; 59(2): e10-52; Strykowski M., et al. CID 2008; 46 suppl 5: s368-77; Daum R et al. NEJM 2017; 376:2545-55.

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Epidemiology - Pressure Ulcers (PU)

- 2.5 million per year
- 130 incident cases per 100,000
- 60,000 deaths annually
 - 4.5 x mortality than those with same risk factors but w/o PU

Age (years)	Female Prevalence Numbers	Male Prevalence Numbers	Female Prevalence Rate (per 100,000 person-years)	Male Prevalence Rate (per 100,000 person-years)
1-4	~100	~100	~0.1	~0.1
5-9	~200	~200	~0.2	~0.2
10-14	~300	~300	~0.3	~0.3
15-19	~400	~400	~0.4	~0.4
20-24	~500	~500	~0.5	~0.5
25-29	~600	~600	~0.6	~0.6
30-34	~700	~700	~0.7	~0.7
35-39	~800	~800	~0.8	~0.8
40-44	~900	~900	~0.9	~0.9
45-49	~1000	~1000	~1.0	~1.0
50-54	~1100	~1100	~1.1	~1.1
55-59	~1200	~1200	~1.2	~1.2
60-64	~1300	~1300	~1.3	~1.3
65-69	~1400	~1400	~1.4	~1.4
70-74	~1500	~1500	~1.5	~1.5
75-79	~1600	~1600	~1.6	~1.6
80-84	~1700	~1700	~1.7	~1.7
85-89	~1800	~1800	~1.8	~1.8
90-94	~1900	~1900	~1.9	~1.9
95-99	~2000	~2000	~2.0	~2.0

Sources: Zhang X, et al. Sci Reports. 2021;11(21750); Borjesson L, et al. Int J Prev Med. 2020;11:171; Kaka A, et al. Open Forum Inf Dis. 2019; 6(10): Decubitus Ulcer, updated 2014.

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Economic Burden

Per ulcer
\$21,000 – 151,000 (2010 USDs)

Annual U.S. Health Care Costs
\$11-26 billion
50% increase in nursing staff workload

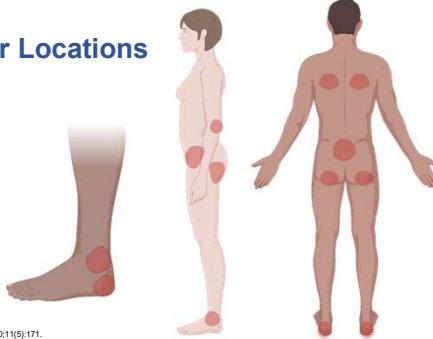
Sources: Driver et al., Vasc Surg 2010;52(3):176-226; Rice J., et al. Diabetes Care. 2014;37(3):651-6; Appelqvist J., et al. J Intern Med. 1994;255(5):463-71.

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Pressure Ulcer Locations

- Ischium
- Sacrum
- Buttocks
- Trochanter
- Heels
- Malleolus
- Scapula
- Elbow



Source: Borjesson L., et al. Int J Prev Med. 2020;11(5):171.

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Polling Question

Which of the following are factors in development of a pressure ulcer?

- A. Immobility and debility
- B. Infrequent off-loading
- C. Malnutrition
- D. Urinary and/or fecal incontinence
- E. All of the above

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Polling Question

Which of the following are factors in development of a pressure ulcer?

- A. Immobility and debility
- B. Infrequent off-loading
- C. Malnutrition
- D. Urinary and/or fecal incontinence
- E. **All of the above**

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Pressure Ulcer Risk Factors

Risk Factor	OR (95% CI)
Antibiotic resistant infection	2.85 (2.1-3.7)
Underweight	2.2 (1.2-4.2)
Paraplegia > Quadriplegia	2.3 (1.8 – 2.4)
Malnutrition	2.1 (1.6-2.8)
Diabetes	1.7 (1.4-2.3)
Male	1.6 (1.4-1.8)
Black	1.5 (1.3-1.7)
Chronic Obstructive Pulmonary Disease (COPD)	1.5 (1.3-1.7)
Bowel incontinence	1.3 (1.1-1.6)
Obese	0.5 (0.3-0.9)

Source: Cowan L, et al. Adv in Skin and Wound Care. 2019;32(3):122-30.

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Pressure Ulcer Classification

Stage	Description
1	Intact skin, non-blanchable redness an hr after pressure relief
2	Partial thickness loss of dermis
3	Full-thickness tissue loss, possible visible fat, muscle
4	Full-thickness tissue loss, involvement of bone, tendon, joint

Source: NPIAP 2020. <https://npiap.com/page/PressureInjuryStages>

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Pressure Ulcer Classification

Stage	Description
1	Intact skin, non-blanchable redness an hr after pressure relief
2	Partial thickness loss of dermis

Stage 3 & 4
Level of injury nearly always
require surgical management to
achieve wound closure

Source: NPIAP 2020. <https://npiap.com/page/PressureInjuryStages>

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Polling Question

True or False: In a chronic wound the only good bacteria are dead bacteria?

A. True

B. False

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Polling Question

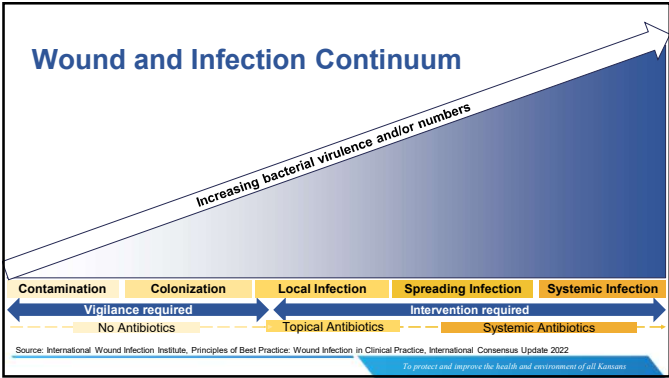
True or False: In a chronic wound the only good bacteria are dead bacteria?

A. True

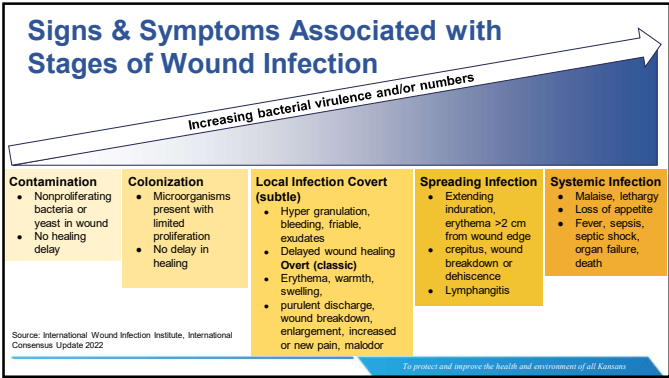
B. **False**

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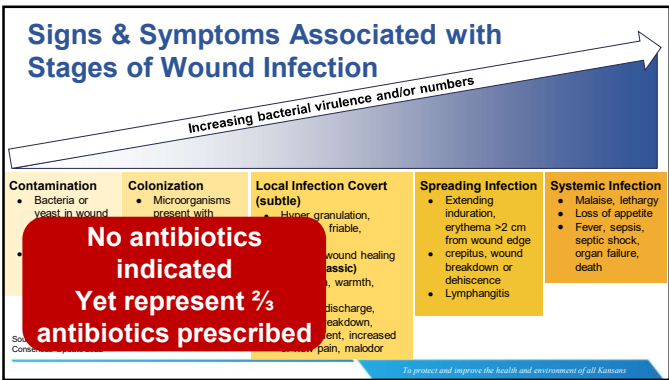
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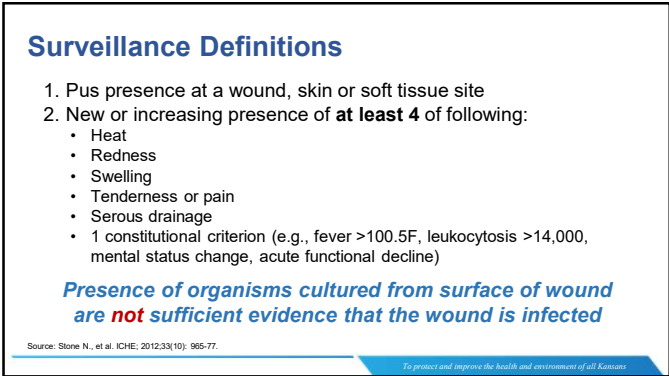
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Surveillance

LTC Skin, Soft Tissue, and Mucosal Infection Worksheet
(Revised October 2012)

Resident Name	MRB	Date of Admission	Resident Location (Bed/Room #)
Relevant Findings (source, culture data, organism(s), vital signs, etc.)	Date of Onset of S&S <input type="checkbox"/> ≤ 2 calendar days = Community Acquired <input type="checkbox"/> > 2 calendar days after admit = Facility Acquired		
Is S&S?	Person completing form		
Type of Infection			

Type of Infection	Signs and Symptoms	Comments
<input type="checkbox"/> Cellulitis, soft tissue, or wound	<p>MUST HAVE at least 4 of the following:</p> <ul style="list-style-type: none">Redness at the affected siteSwelling at the affected siteHeat at the affected siteTenderness or pain at the affected siteExudate or drainage at the affected siteOne constitutional infection (fever to Appendix)Fever*Leukocytosis*Acute change in mental status from baseline*Acute functional decline*	<p>Presence of organisms cultured from the surface (e.g., superficial) or deep (e.g., abscess) of a wound is NOT sufficient evidence that the wound is infected. Wound that is red, hot, swollen, and tender with exudate or drainage from the same organism (e.g., S. aureus, K. pneumoniae) is likely infected.</p>
<input type="checkbox"/> Surgical site	<p>MUST HAVE at least 1 of the following:</p> <ul style="list-style-type: none">Redness at the affected siteSwelling at the affected siteHeat at the affected siteTenderness or pain at the affected siteExudate or drainage at the affected siteOne constitutional infection (fever to Appendix)Fever*Leukocytosis*Acute change in mental status from baseline*Acute functional decline*	<p>Presence of organisms cultured from the surface (e.g., superficial) or deep (e.g., abscess) of a wound is NOT sufficient evidence that the wound is infected. Wound that is red, hot, swollen, and tender with exudate or drainage from the same organism (e.g., S. aureus, K. pneumoniae) is likely infected.</p>
<input type="checkbox"/> Urinary tract	<p>MUST HAVE at least 1 of the following:</p> <ul style="list-style-type: none">Redness at the affected siteSwelling at the affected siteHeat at the affected siteTenderness or pain at the affected siteExudate or drainage at the affected siteOne constitutional infection (fever to Appendix)Fever*Leukocytosis*Acute change in mental status from baseline*Acute functional decline*	<p>Presence of organisms cultured from the surface (e.g., superficial) or deep (e.g., abscess) of a wound is NOT sufficient evidence that the wound is infected. Wound that is red, hot, swollen, and tender with exudate or drainage from the same organism (e.g., S. aureus, K. pneumoniae) is likely infected.</p>
<input type="checkbox"/> Respiratory	<p>MUST HAVE at least 1 of the following:</p> <ul style="list-style-type: none">Redness at the affected siteSwelling at the affected siteHeat at the affected siteTenderness or pain at the affected siteExudate or drainage at the affected siteOne constitutional infection (fever to Appendix)Fever*Leukocytosis*Acute change in mental status from baseline*Acute functional decline*	<p>Presence of organisms cultured from the surface (e.g., superficial) or deep (e.g., abscess) of a wound is NOT sufficient evidence that the wound is infected. Wound that is red, hot, swollen, and tender with exudate or drainage from the same organism (e.g., S. aureus, K. pneumoniae) is likely infected.</p>
<input type="checkbox"/> Bloodstream	<p>MUST HAVE at least 1 of the following:</p> <ul style="list-style-type: none">Redness at the affected siteSwelling at the affected siteHeat at the affected siteTenderness or pain at the affected siteExudate or drainage at the affected siteOne constitutional infection (fever to Appendix)Fever*Leukocytosis*Acute change in mental status from baseline*Acute functional decline*	<p>Presence of organisms cultured from the surface (e.g., superficial) or deep (e.g., abscess) of a wound is NOT sufficient evidence that the wound is infected. Wound that is red, hot, swollen, and tender with exudate or drainage from the same organism (e.g., S. aureus, K. pneumoniae) is likely infected.</p>
<input type="checkbox"/> Other	<p>MUST HAVE at least 1 of the following:</p> <ul style="list-style-type: none">Redness at the affected siteSwelling at the affected siteHeat at the affected siteTenderness or pain at the affected siteExudate or drainage at the affected siteOne constitutional infection (fever to Appendix)Fever*Leukocytosis*Acute change in mental status from baseline*Acute functional decline*	<p>Presence of organisms cultured from the surface (e.g., superficial) or deep (e.g., abscess) of a wound is NOT sufficient evidence that the wound is infected. Wound that is red, hot, swollen, and tender with exudate or drainage from the same organism (e.g., S. aureus, K. pneumoniae) is likely infected.</p>

[Download](#) [spice.unc.edu/wp-content/uploads/2017/03/Skin-Soft-Tissue-Mucosal-Infection-Worksheet-McGeer-SPICE.pdf](#) k

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Culturing

**Surface wound culture
pathogen results
representing true infection**

- Sensitivity 49%
- Specificity 62%
- When swabs obtained, rotate swab over a 1-cm square area with sufficient pressure to express fluid from within wound or tissue

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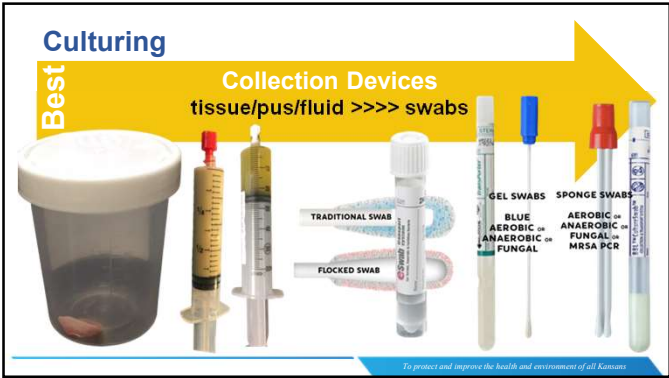
Polling Question

Wound culture specimens in my facility are obtained by the following methods (*select all that apply*)

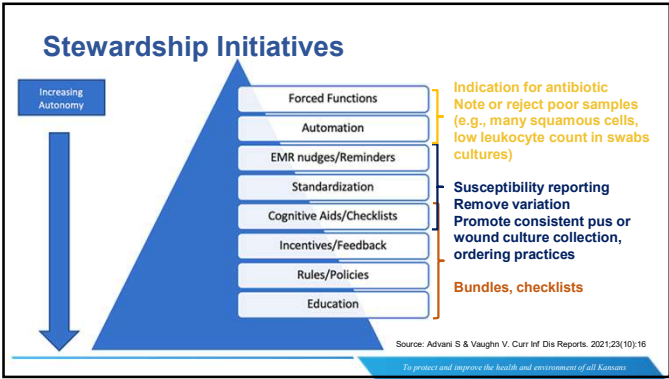
- A. Dressing drainage swabs
- B. Surface wound swabs
- C. Deep wound swabs
- D. Fluid aspiration
- E. Tissue biopsy
- F. Not sure

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Choosing Initiatives

Any intervention may be effective in isolation, a combination of interventions targeting both SYSTEMS + PERSONS is most effective

Designing successful intervention bundle involves 6 crucial steps:

1. Assess need & define underlying problem
2. Identify which key barriers are modifiable, have greatest impact for change
3. Implement 1 change at a time
4. Use complementary approaches
5. Test intervention in pilot population
6. Assess outcomes at regular intervals

Appearance of symptoms → Diagnosis → Antibiotic choice → Antibiotic Durations

Source: Advani S & Vaughn V. Curr Inf Dis Reports. 2021;23(10):16

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Diagnostic Stewardship


Pre-Analytic	Analytic	Post-Analytic
Ordering: Focus on testing only high pretesting probability. Collecting: Sample collection and transport to optimize yield, reduce contamination. Testing: Only dependent upon symptoms; avoid blanket or repeated wound cultures. Technique: Sampling from wound or sending optimal intraoperative cultures.	Lab Processing: Use adjunctive tests distinguish colonization from infection. Culturing criteria: Only if signs of infection.	Reporting: Resulted in format that guides appropriate practice. Micro-nudges/comments: E.g., "multiple organisms reflecting contamination". Cascading Antibiotic Choices: Display only preferred antibiotics.

Source: Morgan D., et al. JAMA 2017;318(7):607-608.

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Antibiotic Optimization Opportunities




Right Drug

- Strep >> staph
- Purulent cellulitis no *P.aeruginosa* or anaerobic coverage




Right Route

- Uncomplicated skin and soft tissue infections: equal efficacy IV and PO
- Fewer complications with PO, decreased costs



Right Dose



Right Duration

- Four randomized controlled trials: 5 vs 10 days - no change in cure

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Clinical Practice Guidelines

- Guideline development for cellulitis and abscesses
- Included in order set
- Educational campaign
 - e-mail
 - intranet
 - work areas

Outcomes

Cultures

- 14% (80%→66%, p=0.003)

Imaging

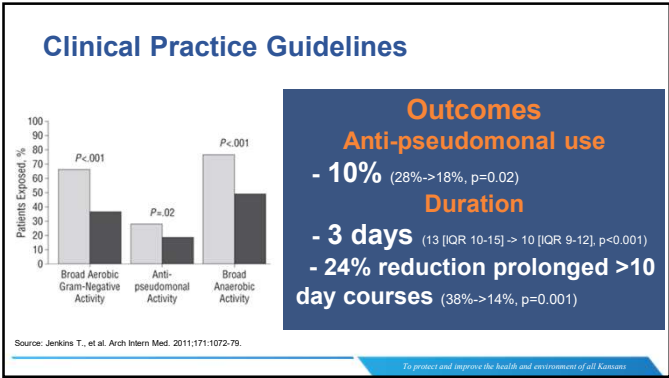
- 14% cellulitis (94%→80%, p=0.03)

+ 11% abscesses (69%→80%, p=0.09)

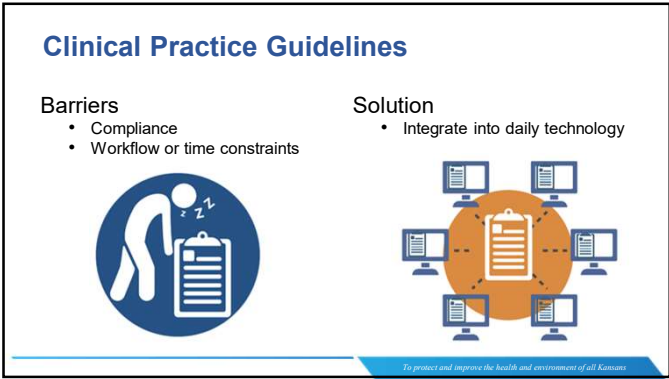
Source: Jenkins T., et al. Arch Intern Med. 2011;171:1072-79.

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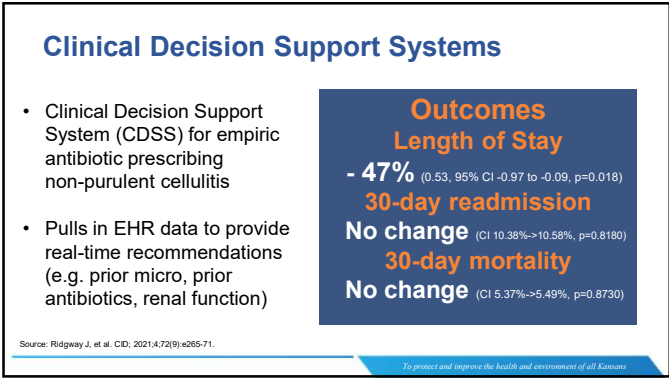
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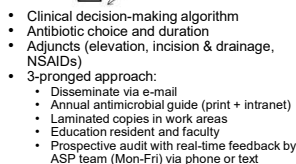
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Meta-analysis majority of studies demonstrated a pooled 2-fold improvement in antibiotic use (OR 2.28, 95% CI 1.82-2.86)



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Concern for necrotizing infection	
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Algorithm from the European
Wound Management
Association (EWMA)



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Bundling Interventions

Outcomes

Length of Stay
- **1.4 day** (3.6 +/- 2.5 -> 2.2 +/- 1.3 days, p<0.001)

30-day mortality
- **1.4%** (6.3% -> 4.9%, p=0.64)

30-day readmission
- **2%** (3.8% -> 1.8%, p=0.22)

Outcomes

Total Antibiotic Duration
- **29%** (12.5 +/- 3.8 days -> 8.8 +/- 2.2 days, p<0.001)

Gram-negative Antibiotics
- **56%** (71%->15%, p<0.001)

Anaerobic Antibiotics
- **47%** (63%->16%, p<0.001)

Source: Walsh T., et al. Mayo Clin Proc Qual. 2017;1-9

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Culturing Stewardship

- Rejection of poor quality swabs (high squamous cells on gram stain consistent with skin swabbing)
- Choosing Wisely Canada campaign recommended laboratories implement gram stain screening criteria to reject low-value wound swab specimens

Wound culture pathogens isolated in patients with skin and soft tissue infections with purulence

Pathogen	Preintervention (n=47)	Postintervention (n=36)
MSSA	11	7
MRSA	10	13
Polymicrobial gram-positive cocci	7	6
Streptococci	7	4
Mixed gram-positive and gram-negative organisms	6	4
Gram-negative organisms	4	1
Other gram-positive organisms	2	1

Sources: Walsh T., et al. Mayo Clin Proc Qual. 2017;1-9; Merchand-Senechal X, et al. OFID 2023;8(1):ofaa009.

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Culturing Stewardship

- "Q score" quality metric compares neutrophils and squamous cells
- Standard for sputum, increasingly used for wound cultures
- Q score 0 considered low quality, not further processed**

		Squamous epithelial cells				
		Cells/L	0	1-9	10-25	>25
Pus cells (neutrophils)	PF					
	0	3	0	0	0	
	1-9	3	0	0	0	
	10-25	3	1	0	0	
	>25	3	2	1	0	

Q score = neutrophils + squamous cells

Specimens w/o any pus or squamous are assigned 3 as safeguard for improperly identified sterile specimens or those unable to mount immune response

Source: Merchand-Senechal X, et al. OFID 2023;8(1):ofaa009.

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Culturing Stewardship

Outcomes

- No change in LOS for rejected versus non-rejected
- Low-quality swabs were more likely to have stopped antibiotics by day 5 (6% -> 23%)
- Lower DOT per patient low-quality rejected swab
 - Fluoroquinolones: 1.49->1.26
 - Clindamycin 1.22->1.05

Source: Merchand-Senechal X, et al. OFID 2023;8(1):ofaa009.

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Polling Question

What are examples of nudges?

- A. Micro commentary intended to guide prescribers towards (or away) from certain antibiotics
- B. Poster intended to guide a patient-clinician discussion towards certain management options
- C. Hiding of desirable options (e.g., narrow antibiotics) and masking undesirable options (broad antibiotics)
- D. Visual enhancement of desirable treatment options or antibiotics over non-desirable options
- E. All of the above

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Micro Nudges

Endorsed by IDSA/SHEA and CLSI

Goal: Guide prescribers towards certain antibiotics

- Selective or cascading reporting are most common
- Should be interdisciplinary (developed by lab, stewardship, end-users)
- Can be implemented at different timepoints inpatient care: initial work-up, antibiotic-initiation/selection or end (duration)

Three forms:

- 1- **Present desirable** options, and **mask undesirable** options
- 2- Frame recommendations with **comments to guide decisions**
- 3- **Visually enhance desired** options

Source: Langford B et al. ICHE 2019;40(12):1400-06

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Reporting Nudges

Leverage the Laboratory to Improve Antibiotic Use

- **Result** text interpretation
- “No MRSA/no Pseudomonas identified”
- “No neutrophils or pus cells identified in the sample indicating minimal inflammation possibly consistent with normal flora or contamination”
- “This specimen will not be processed further as the microscopic exam shows epithelial cells with minimal inflammation. Culture may represent bacterial colonization”

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Polling Question

True or False: effective communication strategies work by re-framing the message towards actionable steps (e.g., “watch and wait” vs “start compression stockings, elevate the legs and monitor for worsening redness”)

A. True

B. False

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Polling Question

True or False: effective communication strategies work by re-framing the message towards actionable steps (e.g., “watch and wait” vs “start compression stockings, elevate the legs and monitor for worsening redness”)

A. **True**

B. False

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Communication Strategies

Correlation for cognitive bias with the decision to take antibiotics

Cognitive Bias	Correlation	Quote
Action Bias	0.56	"I preferred to do something rather than nothing"
Social Norm	0.35	"My colleagues would call for antibiotics in this situation"
Source Discrediting	0.28	"I did not fully trust what the nurse/dr said about my not having a skin infection"
Information Neglect	0.15	"When Rx'ing, I did not consider the information about wound change, just it's pain"

Source: Thorpe A et al. J Exp Psychol Appl, 2020;26(3): 422-31.

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Communication Strategies

Reframe the Inaction Message - Prescriber

- “Watch and wait”
- “Wait for cultures”
- “Cultures are negative there is nothing more to do”
- “Start elevating your legs at least 2 times a daily, avoid dangling, and start wearing compression stockings”
- “Good news! Although we probably did not need cultures since the wound has not changed recently, they confirm it is only normal skin bacteria in the wound. Let me know if you develop symptoms of a skin infection (spreading redness, warmth, increased drainage or fevers)”

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Communication Strategies

Reframe the Inaction Message - Nurse

- “Likely not an infection, call back if symptoms change”
- “The chronic drainage is because the wound is open, but unless you develop symptoms of redness, increased pain, warmth or fevers or other new or concerning symptoms, the antibiotics will not help. Let’s get you over to wound clinic to help heal this wound”
- “Cultures are negative there is nothing more to do”
- “Given symptoms are inconsistent with wound infection I am documenting that no McGeer criteria are met”

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Social Determinants: Clinician Relationships

- Prescribing etiquette and the norm of noninterference
- Hierarchy
 - Junior physicians defer to attendings
 - Senior colleagues and social networks more influential than guidelines or education
- Sustained change requires internalization of new social norms
 - Recruit champions
 - Trusted and influential

Behavioral approach to appropriate antimicrobial prescribing in the dutch unique antimicrobial stewardship (DUMAS)

Sources: Charani E., et al. CD 2013; 57(2): 188-96; Papoutsi C., et al J Antimicrob Chemother 2017;72(9): 2419-30; Sikkens J., et al. JAMA Intern Med 2017;177(8):1130-36.

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Education

E-learning (free) futurelearn.com/courses/antimicrobial-stewardship-in-wound-management/2

Webinars ewma.org/what-we-do/education/on-demand-webinars

EWMA Wound and Infections


3-weeks, 2 hours/week

- Antibiotic Stewardship in wound management
- Identifying wound infections and prevention of infection, identify early signs of infection
- Cases, change management strategies

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Patient Education



LOOKING AFTER YOUR WOUND

Get the best out of your dressing

Get the best out of your dressing

LOOKING AFTER YOUR WOUND

Get the best out of your dressing

Get the best out of your dressing

COMPRESSION THERAPY

WHY YOU NEED TO GET IT RIGHT!

COMPRESSION THERAPY HAS THE POWER TO HEAL WOUNDS. IT IS A CORNERSTONE IN THE TREATMENT OF MOST ULCERS ON THE LOWER LEGS - THIS IS SUPPORTED BY SUBSTANTIAL EVIDENCE AND GUIDELINES.

WITHOUT COMPRESSION THERAPY MOST WOUNDS WILL NOT HEAL, AND PATIENTS MAY SUFFER FROM NON-HEALING WOUNDS FOR YEARS. THIS IS DANGEROUS TO THE PATIENT AND EXPENSIVE FOR THE HEALTH CARE SYSTEM.

BETTER COMPRESSION MEANS FOR THE PATIENT: SAFER, MORE EFFECTIVE, AND REDUCES THE COST AND TIME ASSOCIATED WITH TREATMENT.

WITH COMPRESSION THERAPY IT IS POSSIBLE TO:

- ✓ INCREASE BLOOD FLOW IN THE LEGS
- ✓ IMPROVE BLOOD FLOW TO THE HEART
- ✓ SUPPORT THE VEINS
- ✓ DECREASE SWELLING

Get the best out of your dressing

E-learning [youtube.com/watch?v=9F7G6CoIAIM&t=45s](https://www.youtube.com/watch?v=9F7G6CoIAIM&t=45s)

Infographics legmatr.org/help-information/resources-for-healthcare-professionals/advice-for-how-patients-can-care-for-a-leg-ulcer-at-home-during-the-coronavirus/

ewma.org/what-we-do/compression-therapy/campaign-materials

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Practice Changes

Workflow Algorithms

- Review diagnostic/treatment tools or algorithms to determine if outdated or not evidence based
- Quit the dipsticks
- Obtain and store cultures properly
- Multidisciplinary approach (wound clinic for chronic wounds, vascular/podiatry for foot wounds)

Guidelines

- Include **not** treating colonized wounds (and exceptions)

Decision Support

- Results message-framing, nudging
- EMR diagnostic pathways

Communication

- Prompts
- Alternative treatment tools

Education

- Staff + patients
- Peer education
- Providers re: guidelines

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Continuing Educational Credit Instructions

Steps to Obtain CNE or CPE:

- Fill out the CNE or CPE Sign-In Form
- Participate in the polls. **Each participant must be logged in separately.**
- Email **fully** completed form to: jdaughetee@khconline.org

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Thank You!

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