# Διαφοροδιάγνωση σήψης-γριπώδους συνδρομής

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# 6 Infectious Disease Emergencies

CHARLES S. BRYAN



From time to time the primary care clinician will face as an emergency a disease or syndrome with which he or she has lit-

## SUGGESTED READING

Brillman JC, Quenzer RW. Infectious Diseases in Emergency Medicine. 2nd ed., Philadelphia: Lippincott-Raven; 1998.
Davis LE, Kennedy PGE, eds. Infectious Diseases of the Nervous System. Oxford: Butterworth-Heinemann; 2000.
Lutwig LI, ed. Infectious disease emergencies. Infect Dis Clin North Am 1996; 10: 693-937.
Roberts R. Management of patients with infectious diseases in an emergency department observation unit. Emerg Med Clin North Am 2001; 19: 187-207.
Scheld WM, Whitley RJ, Durack DT, eds. Infections of the Central Nervous System. 2nd ed., Philadelphia: Lippincott-Raven, 1997.
Talan DA. Infectious disease issues in the emergency department. Clin Infect Dis 1996; 23: 1-14.

## Sepsis Syndrome: Differential Diagnosis of the Flulike Illness

The syndrome of fever, malaise, myalgias, and other constitutional complaints is common in primary care practice. When localizing symptoms and physical findings are few and no rash is seen, patients are often presumed to have a "flulike illness" or "viral syndrome." Some, however, have treatable life-threatening disease. Examples are septicemia caused by *Staphylococcus aureus* or aerobic gram-negative rods, septic abortion, endocarditis, and Rocky Mountain spotted fever. The clinician's task is to determine which patients require close observation, special laboratory studies, and empiric antimicrobial therapy.

### Presentation and Progression

#### *Cause*

Έχει σήψη ο ασθενής?

- Σήψη:  1) η διαδικασία αποσυνθέσεως οργανικής ουσίας, 2) η νέκρωση ιστών του σώματος, 3) η ηθική κατάπτωση, η έκλυση των ηθών

- Sepsis (/ˈsɛpsɨs/; Greek σῆψις, putrefaction and decay) is a potentially fatal whole-body inflammation (a systemic inflammatory response syndrome or SIRS) caused by severe infection

- (αντ. σεπτός εκ του σέβομαι)


Satanic Cumshot

# Κλινική περίπτωση 1

Άρρεν 19 ετών με πυρετό και κυνάγχη

θ 38.5° C
ΑΠ 110/70 mmHg
Σφύξεις 100/min
Αναπνοές 20/ min
Sat 98%

Διογκωμένα παρίσθμια χωρίς εξιδρώματα
Τραχηλικοί λεμφαδένες εντός φ.ο., ανώδυνοι
Υπνηλία
Χωρίς αυχενική δυσκαμψία

# Κλινική περίπτωση 2

Ασθενής ηλικίας 66 ετών

Ασθενής με εμπύρετο ως 37.9 ° C και μη παραγωγικό παροξυσμικό βήχα, εύκολη κόπωση, μυαλγίες, «κρυολόγημα» στην οικογένεια

Απύρετος
ΑΠ 100/54 mmHg,
88 σφύξεις
16 αναπνοές
94% Sat

ΜΡ άμφω

# Κλινική περίπτωση 3

76 ετών γυναίκα, χρόνιο λεμφοίδημα και φλεβική ανεπάρκεια, οξέως άλγος, επιδείνωση οιδήματος, εκροή υγρού και πυρετό

θ 37.9° C

ΑΠ 98/58 mmHg

Σφύξεις 88/min

Αναπνοές 16/ min

Sat 92%

Stick σακχάρου 143 (mg/ml)

# Κλινική περίπτωση 4

Άνδρας 28 ετών με κοιλιακό άλγος μέσης γραμμής, εμέτους και καταβολή

θ 37.3° C
ΑΠ 96/62 mmHg
Σφύξεις 98/min
Αναπνοές 16/ min
Sat 97%
Κοιλιά μαλακή, ευπίεστη, ευαισθησία μέσης γραμμής-περιομφαλικά, McBurney (-), εντερικοί ήχοι πολύ αραιοί

Dellinger RP, Levy MM, Rhodes A, Annane D, Gerlach H, Opal SM, Sevransky JE, Sprung CL, Douglas IS, Jaeschke R, Osborn TM, Nunnally ME, Townsend SR, Reinhart K, Kleinpell RM, Angus DC, Deutschman CS, Machado FR, Rubenfeld GD, Webb S, Beale RJ, Vincent JL, Moreno R;

**Surviving Sepsis Campaign** Guidelines Committee including The Pediatric Subgroup. Surviving Sepsis Campaign: international guidelines for management of severe sepsis and septic shock, 2012.

*Intensive Care Med*. 2013 Feb;39(2):165-228.
*Crit Care Med*. 2013 Feb;41(2):580-637.

**Table 1. Diagnostic Criteria for Sepsis**

**Infection, documented or suspected, and some of the following:**

General variables

Fever (> 38.3°C)

Hypothermia (core temperature < 36°C)

Heart rate > 90/min

Tachypnea

Altered mental status

Significant edema or positive fluid balance (> 20 mL/kg over 24 hr)

Hyperglycemia (plasma glucose > 140 mg/dL or 7.7 mmol/L) in the absence of diabetes

Inflammatory variables

Leukocytosis (WBC count > 12,000 μL–1)

Leukopenia (WBC count < 4000 μL–1)

Normal WBC count with greater than 10% immature forms

Plasma C-reactive protein more than two SD above the normal value

Plasma procalcitonin more than two SD above the normal value

## Hemodynamic variables

Arterial hypotension (SBP < 90 mm Hg, MAP < 70 mm Hg, or an SBP decrease > 40 mm Hg in adults or less than two SD below normal for age)

## Organ dysfunction variables

Arterial hypoxemia (Pao2/Fio2 < 300)

Acute oliguria (urine output < 0.5 mL/kg/hr for at least 2 hrs despite adequate fluid resuscitation)

Creatinine increase > 0.5 mg/dL or 44.2 μmol/L

Coagulation abnormalities (INR > 1.5 or aPTT > 60 s)

Ileus (absent bowel sounds)

Thrombocytopenia (platelet count < 100,000 μL–1)

Hyperbilirubinemia (plasma total bilirubin > 4 mg/dL or 70 μmol/L)

## Tissue perfusion variables

Hyperlactatemia (> 1 mmol/L)

Decreased capillary refill or mottling

Adapted from Levy MM, Fink MP, Marshall JC, et al: 2001 SCCM/ ESICM/ACCP/ ATS /SIS International Sepsis Definitions Conference. *Crit Care Med* 2003; 31: 1250–1256.

General variables

Fever (> 38.3°C)

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Altered mental status

**Significant edema or positive fluid balance (> 20 mL/kg over 24 hr)**

**Hyperglycemia (plasma glucose > 140 mg/dL or 7.7 mmol/L) in the absence of diabetes**

Hemodynamic variables

Arterial hypotension (SBP < 90 mm Hg, **MAP < 70 mm Hg, or an SBP decrease > 40 mm Hg in adults** or less than two SD below normal for age)

Organ dysfunction variables

**Arterial hypoxemia (Pao2/Fio2 < 300)**

Acute **oliguria** (urine output < 0.5 mL/kg/hr for at least 2 hrs despite adequate fluid resuscitation)

Creatinine increase > 0.5 mg/dL or 44.2 μmol/L

Coagulation abnormalities (INR > 1.5 or aPTT > 60 s)

**Ileus (absent bowel sounds)**

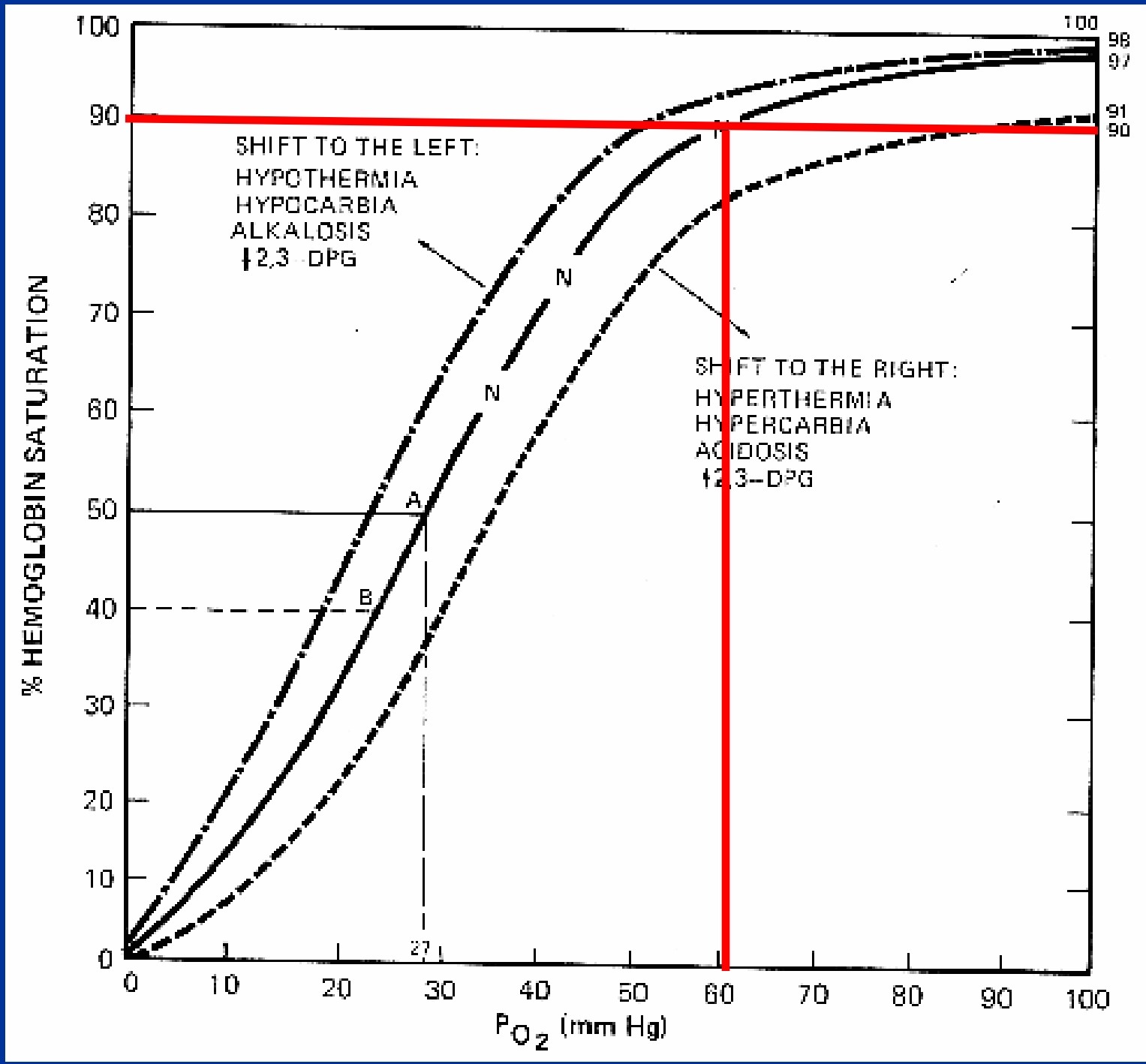
**Thrombocytopenia (platelet count < 100,000 μL–1)**

Hyperbilirubinemia (plasma total bilirubin > 4 mg/dL or 70 μmol/L)

Tissue perfusion variables

Hyperlactatemia (> 1 mmol/L)

**Decreased capillary refill or mottling**


% HEMOGLOBIN SATURATION
100
90
80
70
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
80
90
100
$P_{O_2}$ (mm Hg)
SHIFT TO THE LEFT:
HYPOTHERMIA
HYPOCARBIA
ALKALOSIS
↓2,3 DPG
SHIFT TO THE RIGHT:
HYPERTHERMIA
HYPERCARBIA
ACIDOSIS
↑2,3–DPG
N
N
A
B
27
100
98
97
91
90

Σε απύρετο ασθενή

Sat 90%, PaO2~60%

PaO2/FiO2

60/0.21=286

όμως επί πυρετού

Sat 90%, PaO2~65%

64/0.21=305

# Κλινική περίπτωση 2

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Απύρετος
**ΑΠ 100/54 mmHg**,
88 σφύξεις
16 αναπνοές
94% Sat

MP άμφω
Αναφέρει εύκολη κόπωση

# Κλινική περίπτωση 3

76 ετών γυναίκα άλγος, επιδείνωση οιδήματος, εκροή υγρού και πυρετό

θ 37.9° C

ΑΠ 98/58 mmHg

**Σφύξεις 92/min**

Αναπνοές 16/ min

Sat 92%

**Stick σακχάρου 143 (mg/ml)**

# Κλινική περίπτωση 4

Άνδρας 28 ετών με κοιλιακό άλγος μέσης γραμμής, εμέτους και καταβολή

θ 37.3° C
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**Σφύξεις 98/min**
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Κοιλιά μαλακή, ευπίεστη, ευαισθησία μέσης γραμμής-περιομφαλικά, McBurney (-), **εντερικοί ήχοι πολύ αραιοί**

# Κλινική περίπτωση 1

Άρρεν 19 ετών με πυρετό και κυνάγχη

**θ 38.5° C**
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Διογκωμένα παρίσθμια χωρίς εξιδρώματα
Τραχηλικοί λεμφαδένες εντός φ.ο., ανώδυνοι
**Υπνηλία**
Χωρίς αυχενική δυσκαμψία

Φαρυγγοαμυγδαλίτιδα

Ιγμορίτιδα

Γαστρεντερίτιδα

**Jen Ludwin**

- It all started with what seemed like **a bad sore throat.**
- at The Ohio State University Medical Center
- with flu-like symptoms. I knew I had the flu based off my symptoms, **but the doctors refused to test me and said I had "something viral."**

The doctors and nurses simply hydrated me and sent me on my way home. **Within 48 hours, I was back at the hospital, but this time I was admitted and intubated.**

When I arrived at the emergency department for the second time, my symptoms included: sore throat, high fever, body aches, fatigue, chills, vomiting blood, labored breathing, and excruciating abdominal pain. Additionally, my fingers were dusky colored and my legs were mottled in color from my toes up to my knees. Once I was admitted to the hospital, I was diagnosed with **H1N1 influenza A**, renal failure, **ARDS (Acute Respiratory Distress Syndrome), and septic shock**.

Within a day I underwent **an emergency, exploratory surgery** which resulted in the removal of my gallbladder. After being diagnosed with H1N1, renal failure, ARDS, and sepsis, I experienced a series of complications which included: **multiple organ failure, DIC (Disseminated Intravascular Coagulation), gangrene, a neck abscess, and gastrointestinal bleeding.**

I have had **18 major surgeries that include bilateral below-knee amputations, amputations of all digits on my left hand,** partial amputation of all digits on my right hand, abdominal surgery, throat surgery, and a thoracotomy.

… I also received an experimental drug, ***Peramivir***, which I credit to plateauing the downward spiral I was in and ultimately saving my l

## Table 2. Severe Sepsis

**Severe sepsis definition = sepsis-induced tissue hypoperfusion or organ dysfunction (any of the following thought to be due to the infection)**

**Sepsis-induced hypotension**

Lactate above upper limits laboratory normal

Urine output < 0.5 mL/kg/hr for more than 2 hrs despite adequate fluid resuscitation

**Acute lung injury with Pao2/Fio2 < 250 in the absence of pneumonia as infection source**

**Acute lung injury with Pao2/Fio2 < 200 in the presence of pneumonia as infection source**

Creatinine > 2.0 mg/dL (176.8 µmol/L)

Bilirubin > 2 mg/dL (34.2 µmol/L)

Platelet count < 100,000 µL

Coagulopathy (international normalized ratio > 1.5)

Γριπώδης συνδρομή μπορεί να προηγείται οποιασδήποτε λοίμωξης

Γριπώδης συνδρομή μπορεί να εμφανιστεί σε μη λοιμώδη νοσήματα

**TABLE 54-1 Microbial Causes of Acute Pharyngitis**

| *Pathogen* | *Associated Disorder(s)* |
|---|---|
| **Bacterial** | |
| Streptococcus, group A | Pharyngitis, tonsillitis, scarlet fever |
| Streptococcus, groups C, G | Pharyngitis, tonsillitis |
| Mixed anaerobes | Vincent's angina |
| *Fusobacterium necrophorum* | Pharyngitis, tonsillitis, Lemierre's syndrome |
| *Neisseria gonorrhoeae* | Pharyngitis, tonsillitis |
| *Corynebacterium diphtheriae* | Diphtheria |
| *Arcanobacterium haemolyticus* | Pharyngitis, scarlatiniform rash |
| *Yersinia enterocolitica* | Pharyngitis, enterocolitis |
| *Yersinia pestis* | Plague |
| *Francisella tularensis* | Tularemia, oropharyngeal form |
| *Treponema pallidum* | Secondary syphilis |
| **Viral** | |
| Rhinovirus | Common cold |
| Coronavirus | Common cold |
| Adenovirus | Pharyngoconjunctival fever |
| Herpes simplex type 1 & 2 | Pharyngitis, gingivostomatitis |
| Parainfluenza | Cold, croup |
| Coxsackie A | Herpangina, hand-foot-mouth disease |
| Epstein-Barr virus | Infectious mononucleosis |
| Cytomegalovirus | Cytomegalovirus mononucleosis |
| HIV | Primary HIV infection |
| Influenza A, B | Influenza |
| **Mycoplasmal** | |
| *Mycoplasma pneumoniae* | Pneumonia, bronchitis, pharyngitis |
| **Chlamydophilial** | |
| *Chlamydophila psittaci* | Acute respiratory disease, pneumonia |
| *Chlamydophila pneumoniae* | Pneumonia, pharyngitis |

HIV, human immunodeficiency virus.

Adapted from Alcaide ML, Bisno AL. Pharyngitis and epiglottitis. *Infect Dis Clin North Am*. 2007;21:449-469, vii, with permission.

**TABLE 61-1 Viral Causes of Acute Bronchitis**

| *Pathogen* | *Seasonality* | *Comments* |
|---|---|---|
| Influenza viruses | Winter | Local epidemics last 6-8 wk during which clinical illness of cough and fever has high predictive value; laboratory diagnosis readily available; early neuraminidase inhibitor therapy effective |
| Rhinoviruses | Fall and spring | Most frequent cause of common cold syndrome; immunity is serotype-specific |
| Coronaviruses | Winter-spring | Causes common cold syndrome; newer strains are difficult to culture and require RT-PCR for diagnosis |
| Adenoviruses | Year-round, winter epidemics | High attack rates in closed populations such as military recruits or college dormitories; serotype-specific immunity |
| Respiratory syncytial virus (RSV) | Late fall-early spring | Attack rates approach 75% in newborn infants, ~3%-5 % in adults; associated with wheezing in all age groups; rapid antigen test accurate in children, but requires culture or RT-PCR to diagnose in adults |
| Human metapneumovirus (hMPV) | Winter–early spring | Associated with wheezing in adults and in infants; difficult to isolate in tissue culture, often requires RT-PCR |
| Parainfluenza viruses | Fall-winter | Similar to RSV and hMPV, parainfluenza viruses primarily pediatric pathogens but can cause severe acute disease in some adults |
| Measles virus | Year-round | Can cause respiratory disease in malnourished children; illness causes transient immune suppression |
| *Mycoplasma pneumoniae* | Year-round, fall outbreaks | Long incubation period (10-21 days) results in staggered epidemic pattern in families; nonproductive persistent cough typical; diagnosed by IgM serology; treated with macrolide, quinolone, or tetracycline antibiotics |
| *Chlamydophila pneumoniae* | Year-round | Associated with sinusitis; diagnosis by RT-PCR not readily available |
| *Bordetella pertussis* | Year-round | Severe illness in nonimmunized children; illness milder in partially immune adults can be associated with prolonged cough; adults often reservoir for epidemics; early therapy with antibiotics can reduce spread |

RT-PCR, reverse transcriptase–polymerase chain reaction.

**TABLE 53-1 Viruses Associated with the Common Cold**

| *Virus Group* | *Antigenic Types* | *Percentage of Cases* |
|---|---|---|
| Rhinoviruses | Over 100 types | 40-50 |
| Coronaviruses | 5 types | 10-15 |
| Parainfluenza virus | 5 types | 5 |
| Respiratory syncytial virus | 2 types | 5 |
| Influenza virus | 3 types* | 25-30 |
| Adenovirus | 51 types | 5-10 |
| Metapneumovirus | 2 types | 5 |
| Other viruses: enteroviruses, bocavirus | | |

*Multiple subtypes.

**Κοινά λάθη:**

Λοιμώξεις μαλακών μορίων
- ηλικιωμένοι ασθενείς με κατακλίσεις ή κακώσεις που δεν θυμούνται
- νέοι ασθενείς με δοθιήνες !!!

Μηνιγγίτιδα
- ερπητική/ ιογενείς μηνιγγοεγκεφαλίτιδες

Οξεία επιγλωτίτιδα

Σφηνοειδίτιδα – θρόμβωση φλεβώδους κόλπου

Πνευμονία
- ηλικιωμένοι
-σληνεκτομηθέντες
-ανοσοκατασταλμένοι (φάρμακα!)

Αποστήματα (καλό ιστορικό !!!)
Ενδοκαρδίτιδα

Staphylococcal toxic shock syndrome ή κύηση
Τροπικά / ταξιδιωτικά νοσήματα / νοσήματα σε μετανάστες (ricketsiae, TB, malaria)
Σεξουαλικώς μεταδιδόμενα

Μη λοιμώδη:
Θερμοπληξία
Addison's disease

Ιστορικό

Παρούσα νόσος

Φυσική εξέταση

Αγωγή

# FOLLOW-UP