

ACİLDE DİYABETİK AYAKTA DİKKAT EDİLMESİ GEREKEN NOKTALAR VE TRİYAJ



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MULTİDİSİPLİNER YAKLAŞIM

- Endokrinoloji
- Ortopedi
- Radyoloji
- Kalp Damar Cerrahi
- İnfeksiyon Hastalıkları
- Anestezi ve Reanimasyon

TRİYAJ

- Acil Servisin ana görevi
- Risk değerlendirmesi
- Komorbidite ve immun durum tespiti
- Osteomiyelit incelemesi
- Yatış???
- Ayaktan poliklinik takibi???

SINIFLAMA

- Wagner
- SINBAD
- University of Texas
- PEDIS

PEDIS classification system.

Grade	Perfussion	Extent	Depth	Infection	Sensation	Score
1	No PAD	Skin Intact	Skin intact	None	No Loss	0
2	PAD, No CLI	<1cm ²	Superficial	Surface	Loss	1
3	CLI	1-3cm ²	Fascia, muscle, tendon	Abscess, Fascitis, Septic arthritis		2
4		>3cm ²	Bone or joint	SIRS		3

KOMORBİDİTE VE İMMUN DURUM

- İleri yaş
- Erkek cinsiyet
- Büyük ülser boyutu
- Kalp yetmezliği
- Yardımsız ayakta duramama ya da yürüyememe
- Son dönem böbrek hastalığı
- Periferik nöropati
- Periferik arter hastalığı

EURODIALE

Project ID: QLG4-CT-2002-01524

Funded under: [FP5-LIFE QUALITY](#)

Optimal organisation of health care in diabetic foot disease (EURODIALE)

From 2002-10-01 to 2006-09-30

KOMORBİDİTE VE İMMUN DURUM

- Geçirilmiş amputasyon ve ayak ülseri öyküsü
- Ayak deformitesi varlığı
- Görme bozukluğu olması
- Kötü glisemik kontrol
- Sigara içimi

OSTEOMİYELİT İNCELEMESİ



Finding	Positive LR (95% CI)	Negative LR (95% CI)
Ulcer area >2 cm ²	7.2 (1.1–49)	0.48 (0.31–0.76)
Positive “probe-to-bone” test	6.4 (3.6–11)	0.39 (0.20–0.76)
Erythrocyte sedimentation rate (with a cutoff of 70 mm/h)	11 (1.6–79)	0.34 (0.06–1.90) [†]
Plain radiograph	2.3 (1.6–3.3)	0.63 (0.51–0.78)
MRI	3.8 (2.5–5.8)	0.14 (0.08–0.26)

Probing tanısal duyarlılık %38-94, özgüllük %85-98

ARTICLE

A prospective, multi-center study: factors related to the management of diabetic foot infections

B. M. Ertugrul · O. Oncul · N. Tulek · A. Willke ·
S. Sacar · O. G. Tunccan · E. Yilmaz · O. Kaya ·
B. Ozturk · O. Turhan · N. Yapar · M. Ture · F. Akin

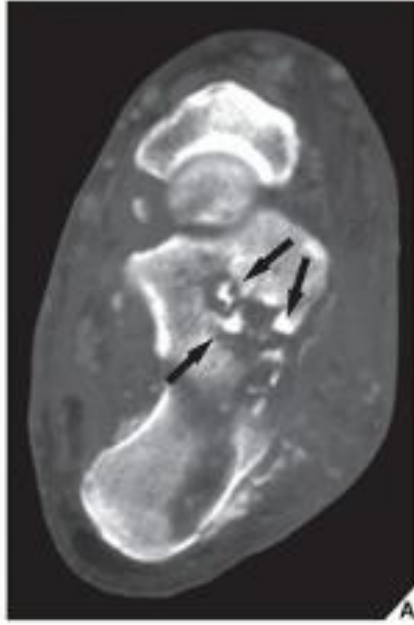
Table 4 Logistic regression analysis of independent risk factors for the growth of resistant bacteria, developing osteomyelitis, and the failure of treatment

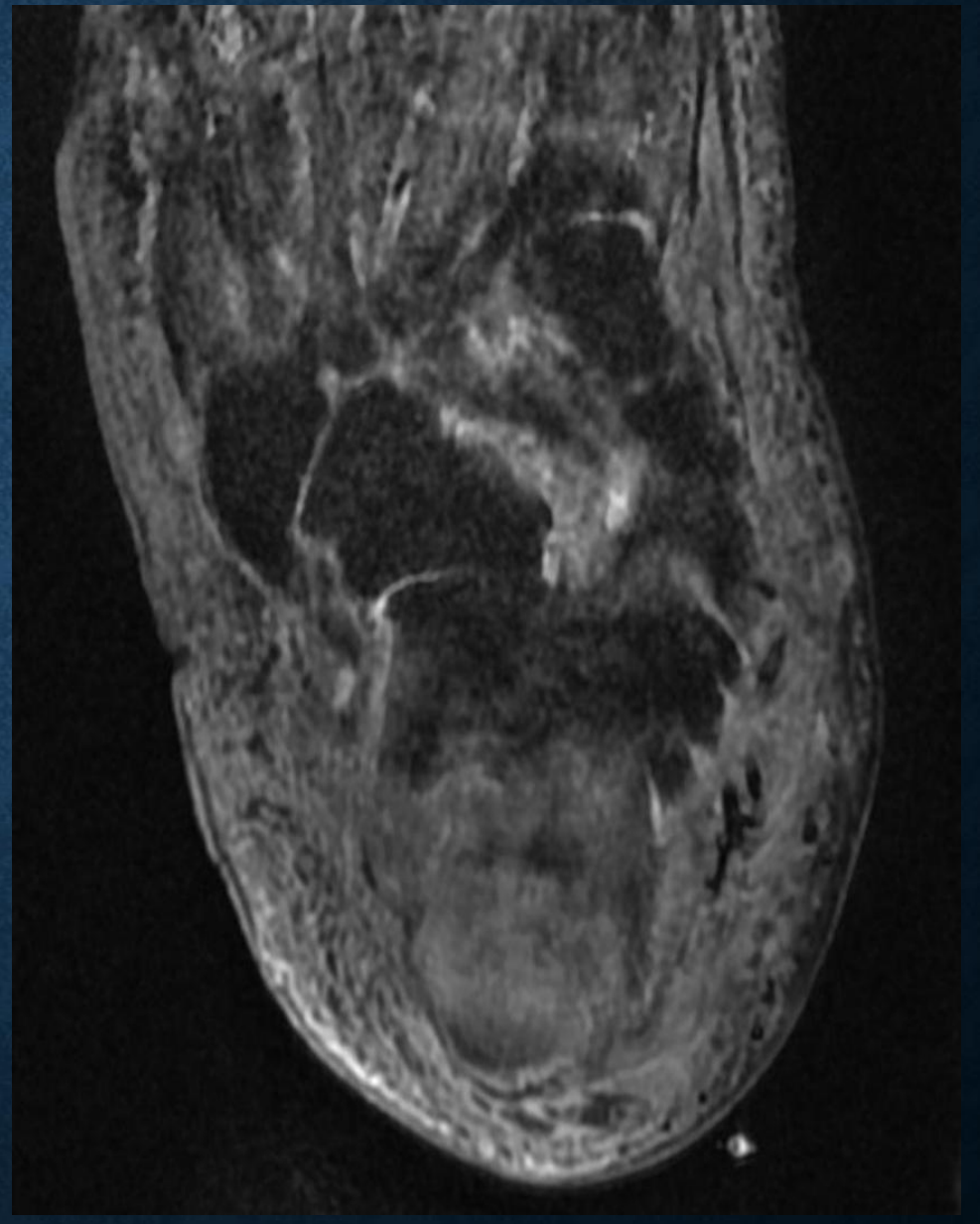
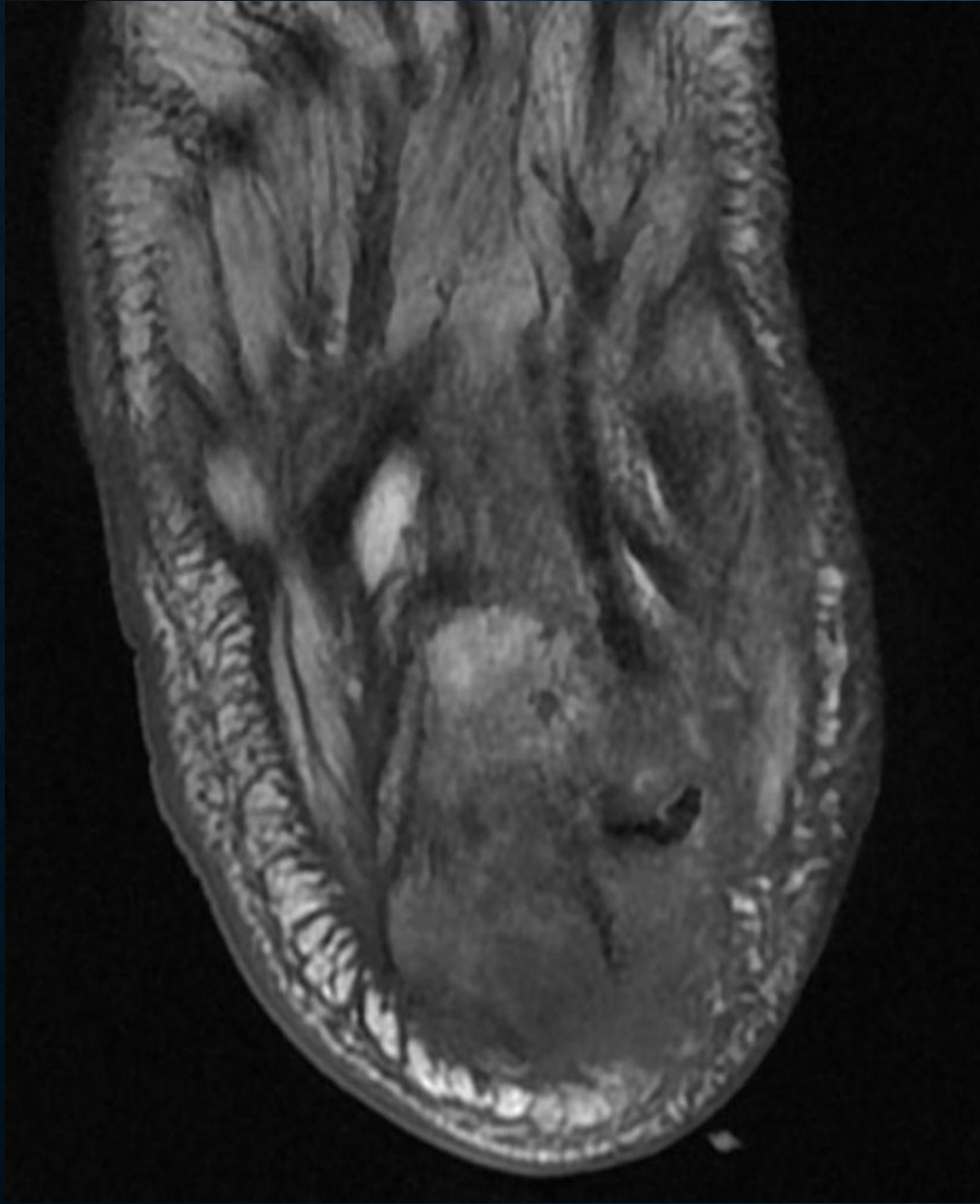
	Variables	<i>p</i>	OR	95% CI
Growth of resistant bacteria	Previous amputation	0.018	7.229	1.410–34.04
	Antibiotic administration within the last 30 days	0.032	3.796	1.123–12.83
Osteomyelitis	Wound size >4.5 cm ²	0.041	2.8	1.044–7.509
Amputation	Previous foot infection	0.005	6.99	1.827–26.743
	Osteomyelitis	0.015	6.173	1.425–26.74
Failure of the treatment	Growth of resistant bacteria	0.016	5.333	1.372–20.735

GÖRÜNTÜLEME

- Düz Radyografi
- Bilgisayarlı Tomografi
- MRI
- Yatak başı Odaklanmış USG (POCUS)





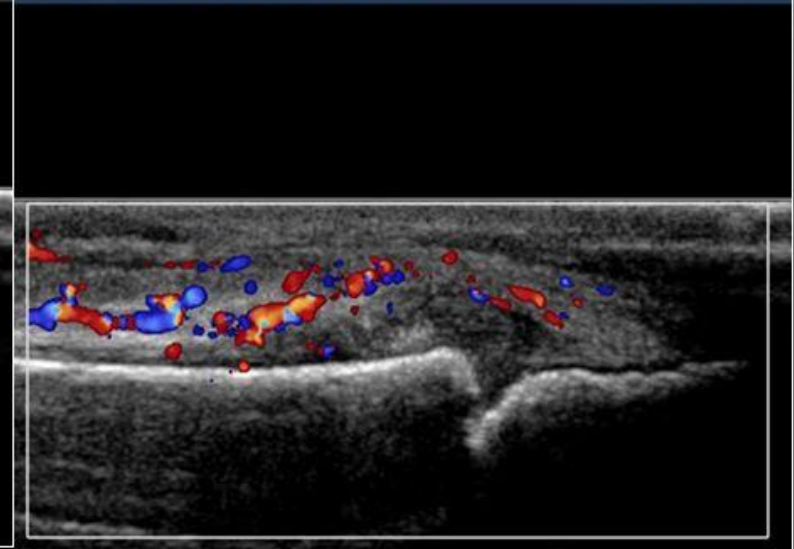
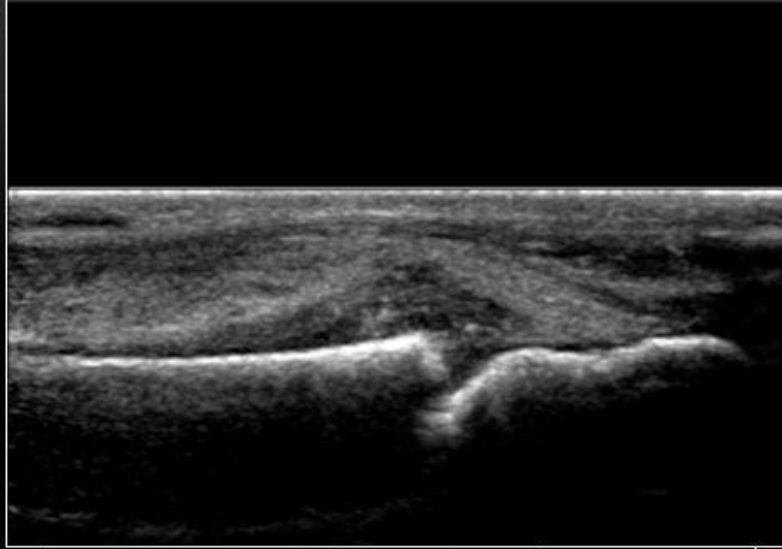


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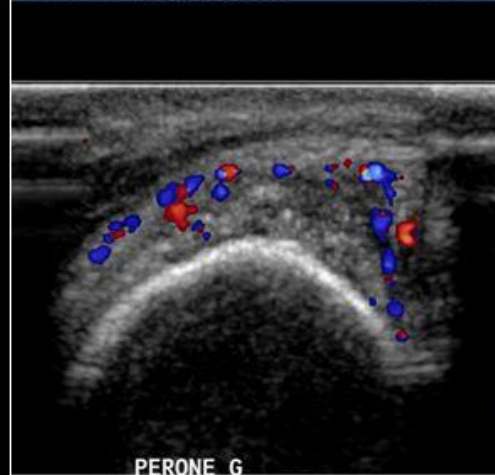
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PERONE G

1/3 DISTAL TRANSVERSAL

Acute osteomyelitis: subperiosteal abscess of the tibia is well assessed with US

Diyabetik Ayak Yarası ve İnfeksiyonunun Tanısı, Tedavisi ve Önlenmesi: Ulusal Uzlaşı Raporu

*Diagnosis, Treatment and Prevention of Diabetic Foot Wounds and Infections:
Turkish Consensus Report*

Neşe Saltoğlu¹, Önder Kılıçoğlu², Selçuk Baktıroğlu³, Zeynep Oşar-Siva⁴, Şamil Aktaş^{3,5}, Muzaffer Altındaş⁶, Caner Arslan⁷, Turan Aslan¹, Selda Çelik⁸, Aynur Engin¹, Haluk Eraksoy¹, Önder Ergönül¹, Bülent Ertuğrul¹, Serdar Güler⁹, Ayten Kadanali¹, Lütfiye Mülazımoğlu¹, Nermin Olgun⁸, Oral Öncül¹, Ali Öznur², İlhan Satman¹⁰, İrfan Şencan¹¹, Özlem Tannöver¹², Özge Turhan¹, Abdullah Kemal Tuysun⁷, Hasan Tüzün⁷, Ahmet Çınar Yastı¹³, Temel Yılmaz¹⁴

- **Hafif infeksiyon:**

- Deri ve deri altı dokusunda tutulum;
- İnflamasyonun klasik bulgularından en az ikisi ya da pürülan akıntı
- Eritem varsa 0.5-2 cm

- **Orta derece infeksiyon:**

- Yara çevresinde eritem >2 cm
- Derin dokuya yayılım (fasiit, derin nekroz, gangren, apseler, kas, tendon, eklem ve kemik)
- SIRS bulguları yok
- Metabolik kontrol bozuk

- **Şiddetli infeksiyon:**

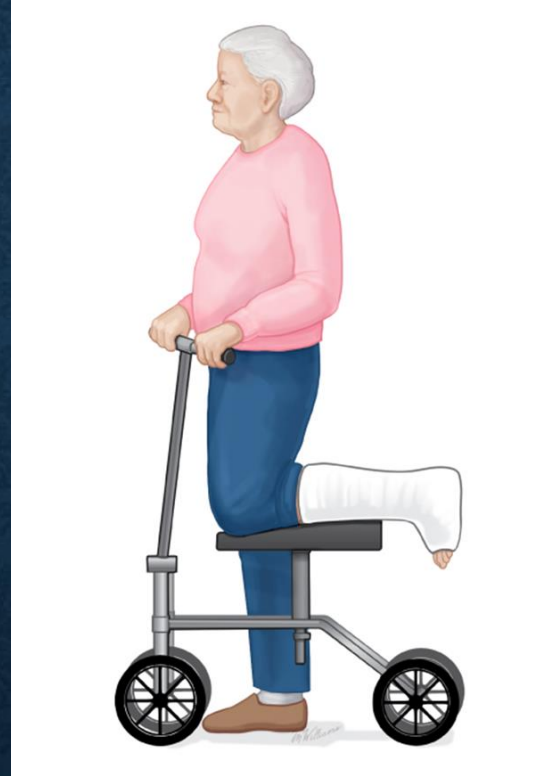
- Ateş ya da hipotermi (>38°C veya <36°C)
- Taşikardi, takipne (SS >20/dk)
- Hipotansiyon (<90/60 mmHg)
- Yaygın nekroz ya da gangren
- Hasta metabolik açıdan labil

ACİL SERVİS YÖNETİMİ

GENEL ÖNLEMLER

- Yara basıncının ortadan kaldırılması
- Nemli bir yara ortamının sağlanması
- Ölü dokuların debridmanı
- Antibiyoterapi

YARA BASINCININ ORTADAN KALDIRILMASI



İDEAL PANSUMAN MALZEMESİ

- Yaranın uygun nem dengesini sağlamalı
- Aşırı eksüdayı uzaklaştırmalı
- Yara kenarının maserasyonunu önlemeli
- Bakterilere ve yabancı cisimlere karşı bariyer oluşturmali
- Gaz geçişine izin vermeli
- Yarayı optimum sıcaklıkta tutmalı
- Değiştirilmesi kolay ve ağrısız olmalı
- Kokuyu engellemeli
- Alerjik olmamalı
- Yaraya mekanik destek vermeli
- Estetik ve ucuz olmalıdır

Type of tissue in the wound	Therapeutic goal	Role of dressing
Necrotic, black, dry	- Remove devitalized tissue - Do not attempt debridement if vascular insufficiency suspected - Keep dry and refer for vascular assessment	- Hydration of wound bed - Promote autolytic debridement
- Sloughy, yellow, brown, black or grey - Dry to low exudate	- Remove slough - Provide clean wound bed for granulation tissue	- Rehydrate wound bed - Control moisture balance - Promote autolytic debridement
- Sloughy, yellow, brown, black or grey - Moderate to high exudate	- Remove slough - Provide clean wound bed for granulation tissue - Exudate management	- Absorb excess fluid - Protect periwound skin to prevent maceration - Promote autolytic debridement
- Granulating, clean, red - Dry to low exudate	- Promote granulation - Provide healthy wound bed for epithelialization	- Maintain moisture balance - Protect new tissue growth
- Granulating, clean, red - Moderate to high exudate	- Exudate management - Provide healthy wound bed for epithelialization	- Maintain moisture balance - Protect new tissue growth
- Epithelializing, red, pink - No to low exudate	Promote epithelialization and wound maturation (contraction)	Protect new tissue growth
- Infected - Low to high exudate	- Reduce bacterial load - Exudate management - Odor control	- Antimicrobial action - Moist wound healing - Odor absorption

Properties of topical agents and dressing materials

Type	Actions	Indications/use
Alginates/CMC*	- Absorb fluid. - Promote autolytic debridement. - Moisture control. - Conformability to wound bed.	- Moderate to high exuding wounds. - Special cavity presentations in the form of rope or ribbon. - Combined presentation with silver for antimicrobial activity.
Foams	- Absorb fluid. - Moisture control. - Conformability to wound bed.	- Moderate to high exuding wounds. - Special cavity presentations in the form of strips or ribbon. - Low-adherent versions available for patients with fragile skin. - Combined presentation with silver or PHMB for antimicrobial activity.
Honey	- Rehydrate wound bed. - Promote autolytic debridement. - Antimicrobial action.	- Sloughy, low to moderate exuding wounds. - Critically colonized wounds or clinical signs of infection.
Hydrocolloids	- Absorb fluid. - Promote autolytic debridement.	- Clean, low to moderate exuding wounds. - Combined presentation with silver for antimicrobial activity.
Hydrogels	- Rehydrate wound bed. - Moisture control. - Promote autolytic debridement. - Cooling.	- Dry/low to moderate exuding wounds. - Combined presentation with silver for antimicrobial activity.
Iodine	Antimicrobial action.	- Critically colonized wounds or clinical signs of infection. - Low to high exuding wounds.
Low-adherent wound contact layer (silicone)	- Protect new tissue growth. - Atraumatic to periwound skin. - Conformable to body contours.	- Low to high exuding wounds. - Use as contact layer on superficial low exuding wounds.
PHMB	Antimicrobial action.	- Low to high exuding wounds. - Critically colonized wounds or clinical signs of infection. - May require secondary dressing.
Odor control (eg, activated charcoal)	Odor absorption.	- Malodorous wounds (due to excess exudate). - May require antimicrobial if due to increased bioburden.
Protease modulating	Active or passive control of wound protease levels.	Clean wounds that are not progressing despite correction of underlying causes, exclusion of infection, and optimal wound care.
Silver	Antimicrobial action.	- Critically colonized wounds or clinical signs of infection. - Low to high exuding wounds. - Combined presentation with foam and alginates/CMC for increased absorbency. Also in paste form.
Polyurethane film	- Moisture control. - Breathable bacterial barrier. - Transparent (allow visualization of wound).	- Primary dressing over superficial low exuding wounds. - Secondary dressing over alginate or hydrogel for rehydration of wound bed.

DEBRİDMAN

- Kesinlikle cerrahi debridman yapılmalı
- Kronikleşmiş yaraların bakteri yükünü azaltır ve kontraksiyonunu artırır
- Herhangi bir infeksiyon kanıtı varlığında geciktirilmemeli
- İyileşmeyen kronik yaralarda
 - yaranın kenarlarının düzeltilmesi
 - infeksiyonun uzaklaştırılması
 - kültür/bx alınmasında endikedir
- Seri cerrahi debridman yara iyileşmesini olumlu yönde etkiler

SEPSİS TABLOSUNUN ACİL YÖNETİMİ

- Erken tanı
- Hemodinaminin erken düzeltilmesi
- Erken infeksiyon kontrolü
- Resüsitasyon hedefleri:
 - Preload
 - Doku perfüzyonu
 - Oksijen sunumu

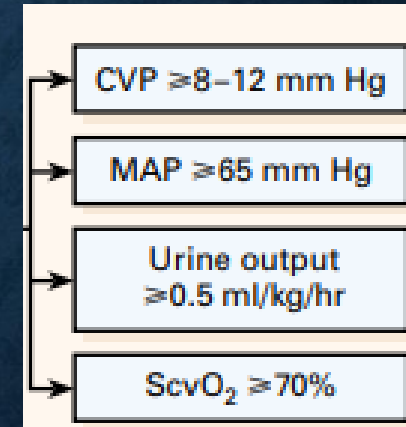
SEPSİS TABLOSUNUN ACİL YÖNETİMİ

- ABC
- İlk 6 saatte 2-5 L kristalloid
- İlk sıvı replasmanı sonrası SKB artma olmuyorsa vazopressörler hemen başlanmalı
- Hedef MAP 65 mmHg
- Laktat değerlerinin normale getirilmesi resüsitasyonun temel amacı

**EARLY GOAL-DIRECTED THERAPY IN THE TREATMENT OF SEVERE SEPSIS
AND SEPTIC SHOCK**

EMANUEL RIVERS, M.D., M.P.H., BRYANT NGUYEN, M.D., SUZANNE HAVSTAD, M.A., JULIE RESSLER, B.S.,
ALEXANDRIA MUZZIN, B.S., BERNHARD KNOBLICH, M.D., EDWARD PETERSON, Ph.D., AND MICHAEL TOMLANOVICH, M.D.,
FOR THE EARLY GOAL-DIRECTED THERAPY COLLABORATIVE GROUP*

- Standard bakıma oranla mortalitede azalma gösterildi
- Tüm hastalara santral venöz kateter



Published in final edited form as:

JAMA. 2010 February 24; 303(8): 739–746. doi:10.1001/jama.2010.158.

Lactate Clearance vs Central Venous Oxygen Saturation as Goals of Early Sepsis Therapy: A Randomized Clinical Trial

Dr. Alan E. Jones, MD, Dr. Nathan I. Shapiro, MD, MPH, Dr. Stephen Trzeciak, MD, MPH, Dr. Ryan C. Arnold, MD, Ms. Heather A. Claremont, BFA, and Dr. Jeffrey A. Kline, MD for the Emergency Medicine Shock Research Network (EMShockNet) Investigators

Department of Emergency Medicine, Carolinas Medical Center, Charlotte, North Carolina (Drs Jones and Kline and Ms Claremont); Department of Emergency Medicine and Center for Vascular Biology Research, Beth Israel Deaconess Medical Center, Boston, Massachusetts (Dr Shapiro); and Departments of Medicine, Division of Critical Care Medicine (Dr Trzeciak), and Emergency Medicine (Drs Trzeciak and Arnold), Cooper University Hospital, Camden, New Jersey

Conclusion—Among patients with septic shock who were treated to normalize central venous and mean arterial pressure, additional management to normalize lactate clearance compared with management to normalize ScvO₂ did not result in significantly different in-hospital mortality.

The NEW ENGLAND JOURNAL of MEDICINE

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

The ProCESS Investigators*

- 1351 hasta; 3 grup
- İnvaziv Santral Monitörizasyon (EDGT)
- Klinik parametrelere dayalı protokol (KB, Şok İndeks)
- Protokole bağlı olmayan hekim bakımı
- Tüm gruplar erken antibiyotik, agresif sıvı ve vazopressör desteği
- Birbirlerine üstünlükleri yok

In summary, in our multicenter, randomized trial, in which patients were identified early in the emergency department as having septic shock and received antibiotics and other nonresuscitation aspects of care promptly, we found no significant advantage, with respect to mortality or morbidity, of protocol-based resuscitation over bedside care that was provided according to the treating physician's judgment. We also found no significant benefit of the mandated use of central venous catheterization and central hemodynamic monitoring in all patients.

VAZOPRESSÖRLER

- İlk tercih Norepinefrin 0.5-30 mcg/dk
- Vazopressin 0.03-0.04 U/dk
- Adrenalin 1-20 mcg/dk
- Dopamin artık önerilmemekte

