ACİLDE
KARDİYAK HASTA YÖNETİMİ
SEMPOZYUMU - 8. ATOK
14 -15 HAZİRAN 2014
Ege Üniversitesi Tıp Fakültesi Hastanesi Muhittin Erel Amfisi Bornova / İZMİR

Son Kılavuzlar Işığında Erişkin İleri Kardiyak Yaşam Desteği

Dr. Murat ORAK
Dicle Üniversitesi Tıp Fakültesi
Acil Tıp Anabilim Dalı
04.03.2014

Tarihçe

Tarihçe

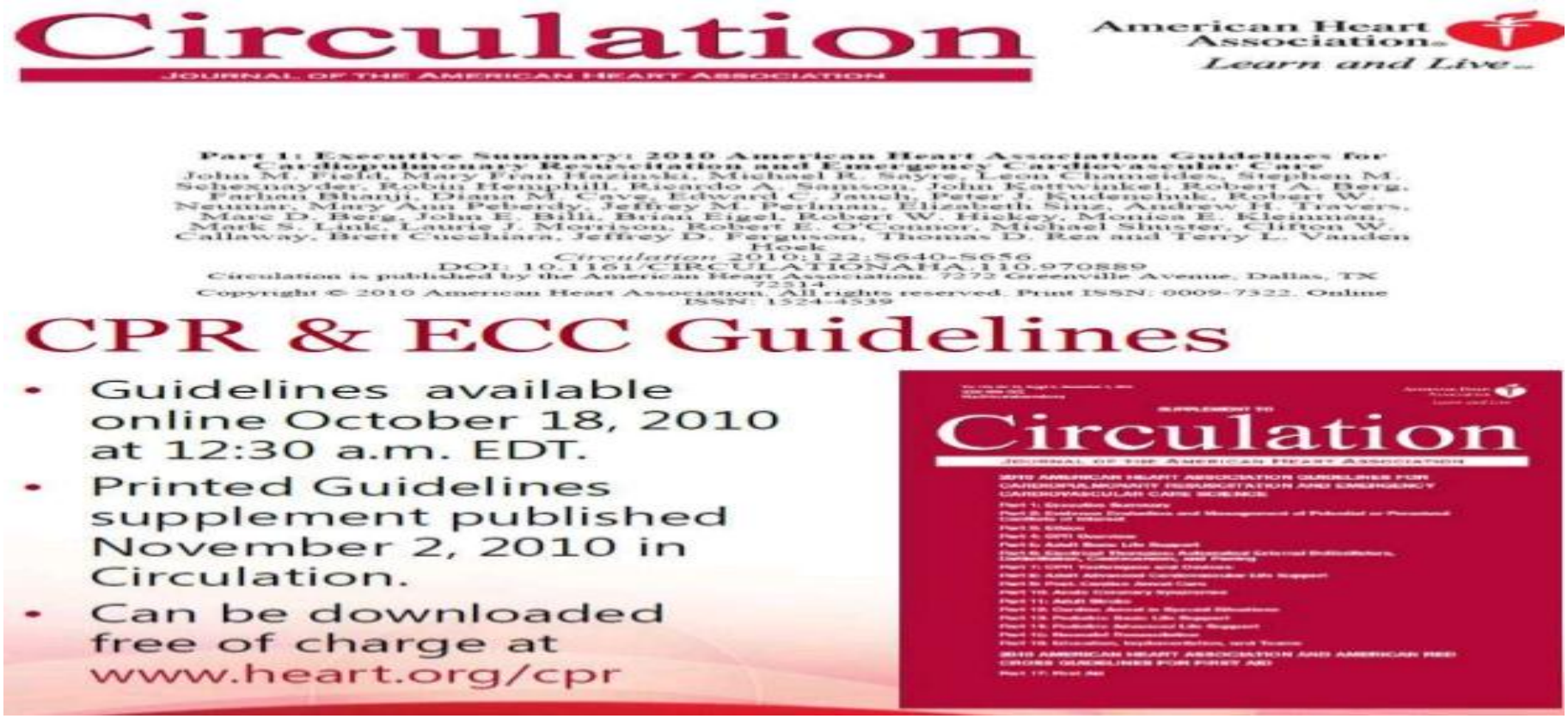
- Modern KPR, 50 yıllık geçmiş
- 1956 - ilk defibrilasyon
- 1960'a kadar sadece solunum desteği
- 1960 - Kouwenhoven - "göğüs masajı"
- 1960'ların sonu - Safar - "modern KPR"

Tarihçe

- 1966 Amerikan Kalp Cemiyeti (AHA) ilk tedavi kılavuzu
- 1993 yılında Uluslararası Bağlantılı Resüsitasyon Komitesi (International Liaison Committee on Resuscitation, ILCOR) kuruldu.
- ILCOR 2000 yılından bu yana her beş senede bir resüsitasyon kılavuzlarını güncelleme kararı almıştır.

Tarihçe

- En son 18 Ekim 2010'da son kılavuzu yayınladı



Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association
Learn and Live

Part 1: Executive Summary: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care

John M. Field, Mary Fran Hazinski, Michael R. Sayre, Leon Chameides, Stephen M. Schexnayder, Robin Hemphill, Ricardo A. Samson, John Kattwinkel, Robert A. Berg, Farhan Bhanji, Diana M. Cave, Edward C. Jauch, Peter J. Kudenchuk, Robert W. Neumar, Mary Ann Peberdy, Jeffrey M. Perlman, Elizabeth Sinz, Andrew H. Travers, Mark S. Link, Laurie J. Morrison, Robert E. O'Connor, Michael Shuster, Clifton W. Callaway, Brett Cucchiara, Jeffrey D. Ferguson, Thomas D. Rea and Terry L. Vanden Hoek

Circulation 2010;122;S640-S656

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CPR & ECC Guidelines

- Guidelines available online October 18, 2010 at 12:30 a.m. EDT.
- Printed Guidelines supplement published November 2, 2010 in Circulation.
- Can be downloaded free of charge at www.heart.org/cpr

- İKYD hastane ortamında, ambulansta ya da olay yerinde uygulanabilir.
- Ama malzeme, ilaç ve profesyonel ekip gerektirir.
- Birincil bakı ve ikincil bakı olmak üzere iki ayrı aşama birbirini takip eder.

- Birincil değerlendirme
  - C – Dolaşım (Circulation)
  - A – Havayolu (Airway)
  - B – Solunum (Breathing)
  - D – Defibrilasyon (Defibrillation)

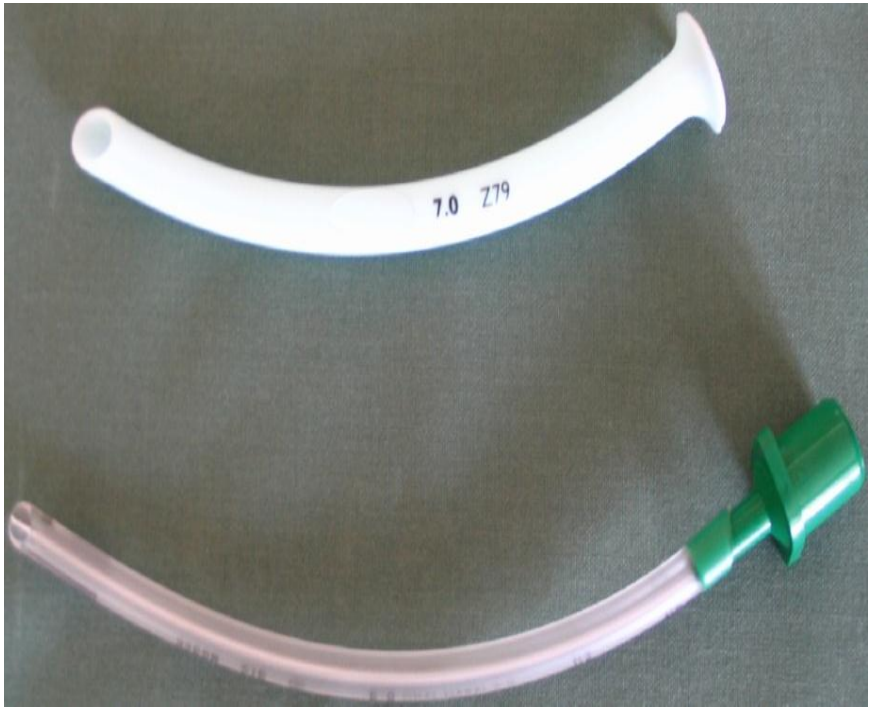
- İkincil değerlendirme
  - C – Dolaşım (Circulation)
  - A – Havayolu (Airway)
  - B – Solunum (Breathing)
  - D – Ayırıcı tanı (Differential diagnosis)

BİRİNCİL BAKI

- C (Dolaşım): TYD uygulamasında anlatıldığı gibi
- A (Havayolu): Hava yolu açıklığı orofarangeal veya nazofarengeal kanül ile sağlanır.
- B (Solunum): Spontan solunum yok ise balon maske yardımı ile hasta solutulur.

Orofarengeal Kanül

Nazofarengeal Kanül



Balon-maske İle Solutma

- Bir elin baş ve işaret parmakları C şekline getirilip maske sıkıca kavranmalı ve yüze yapıştırılmalıdır.
- 3., 4. ve 5. parmaklar ise E şekline getirilerek çene altına yerleştirilmelidir

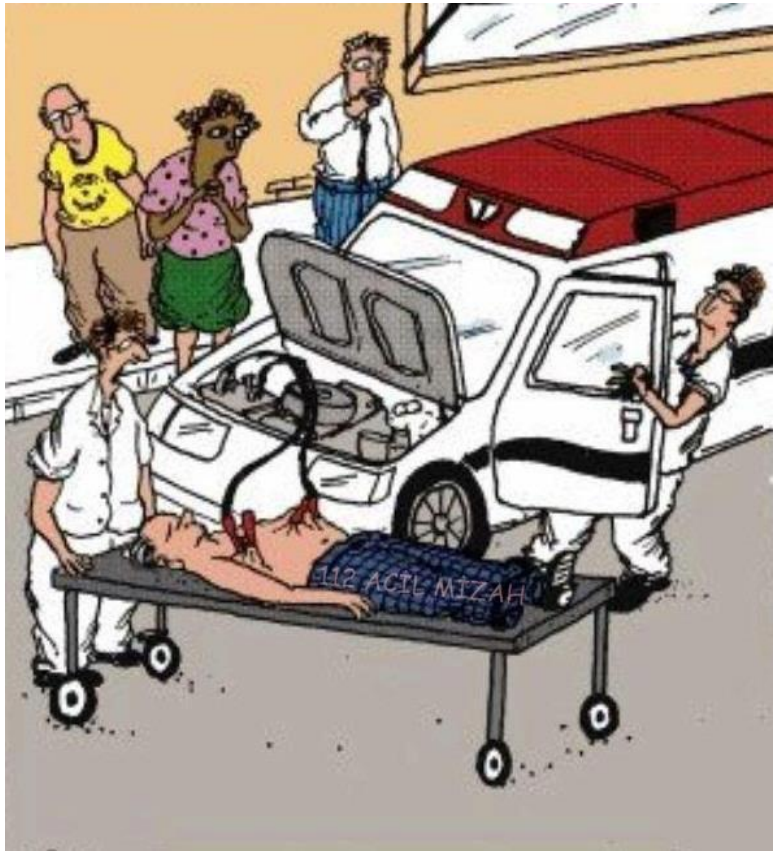
Birincil Bakı- Defibrilasyon

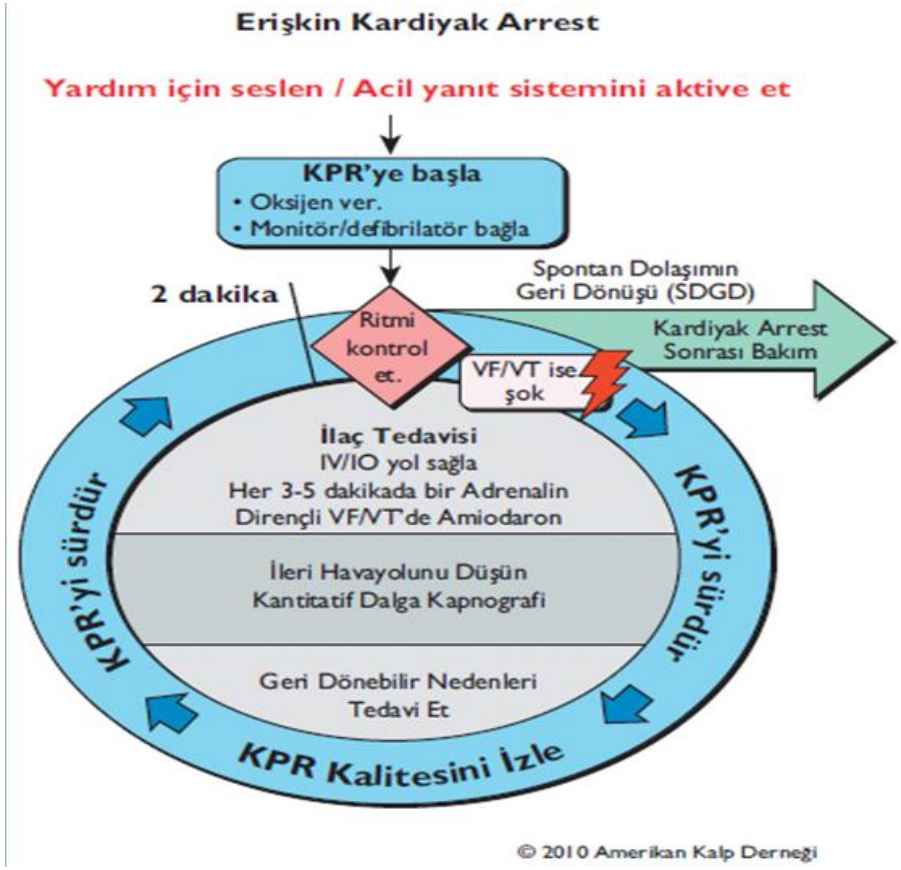
Defibrilasyon uygulanabilir ritmler:

- **Ventriküler fibrilasyon(VF)**
- **Nabızsız ventriküler taşikardi(NVT)**

Defibrilasyon uygulanamayan ritmler:

- **Asistoli**
- **Nabızsız elektriksel aktivite**





- Göğüs kompresyonu / Solunum desteği

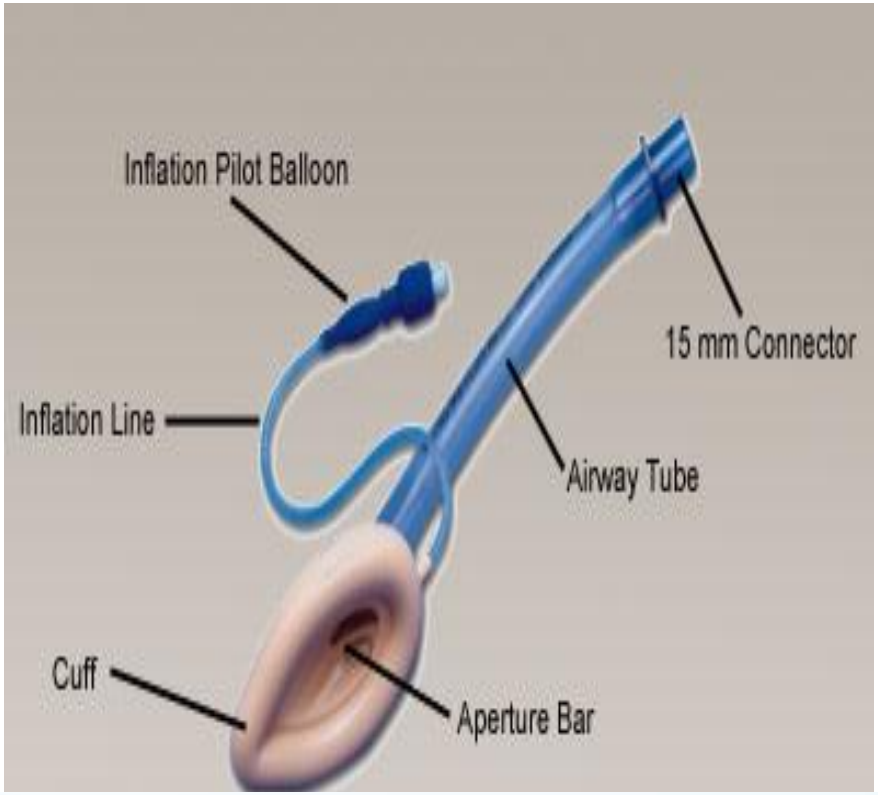
30 / 2

İkincil Bakı

- Kurtarıcı bu aşamada CABD yöntemine geri döner ama daha ayrıntılı girişimler uygulanması gereklidir.
- Hastanın hala spontan solunumu yok ise ileri hava yolu desteği sağlanır.

Laringeal Maske

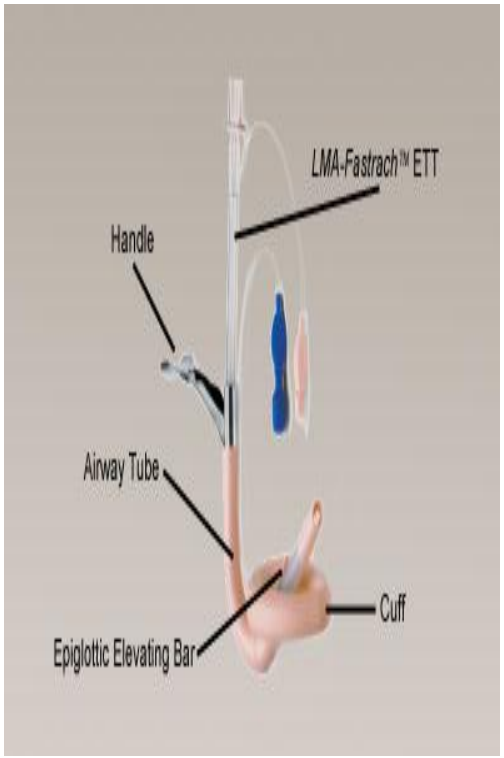
- Boyutlar:
  - 5 kg altı → 1
  - 5-10 kg → 1,5
  - 10-20 kg → 2
  - 20-30 kg → 2,5
  - 30-50 kg → 3
  - 50-70 kg → 4
  - 70 kg üzeri → 5

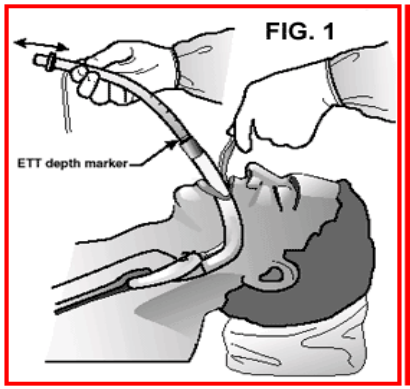


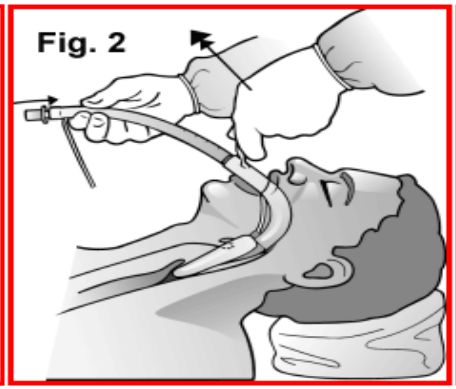
Özefagotrakeal Kombitüp

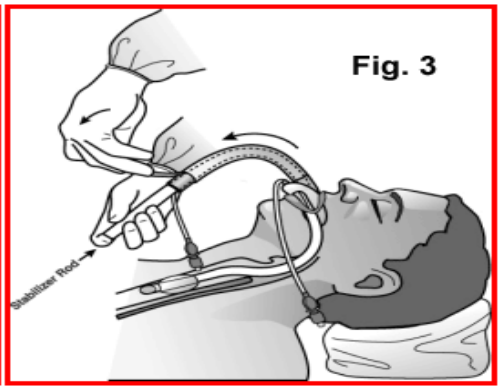
Endotrakeal Entübasyon

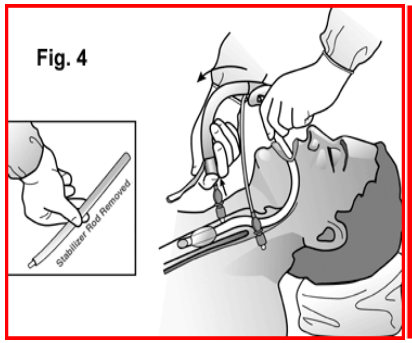
LMA Fastrack ETE

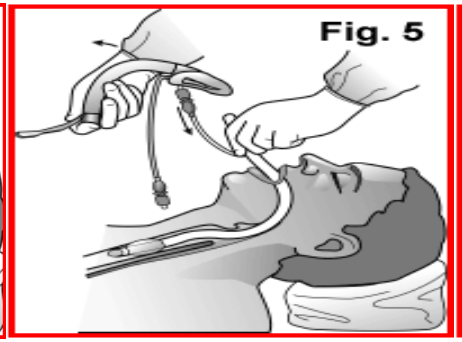


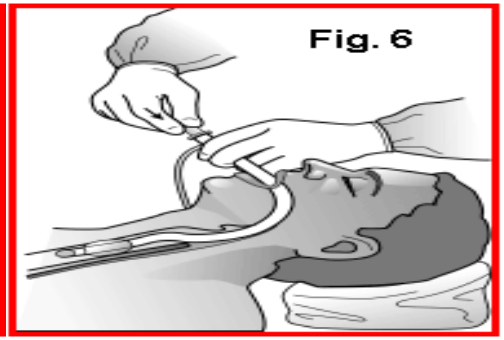












Videolarengeskop ile Entübasyon

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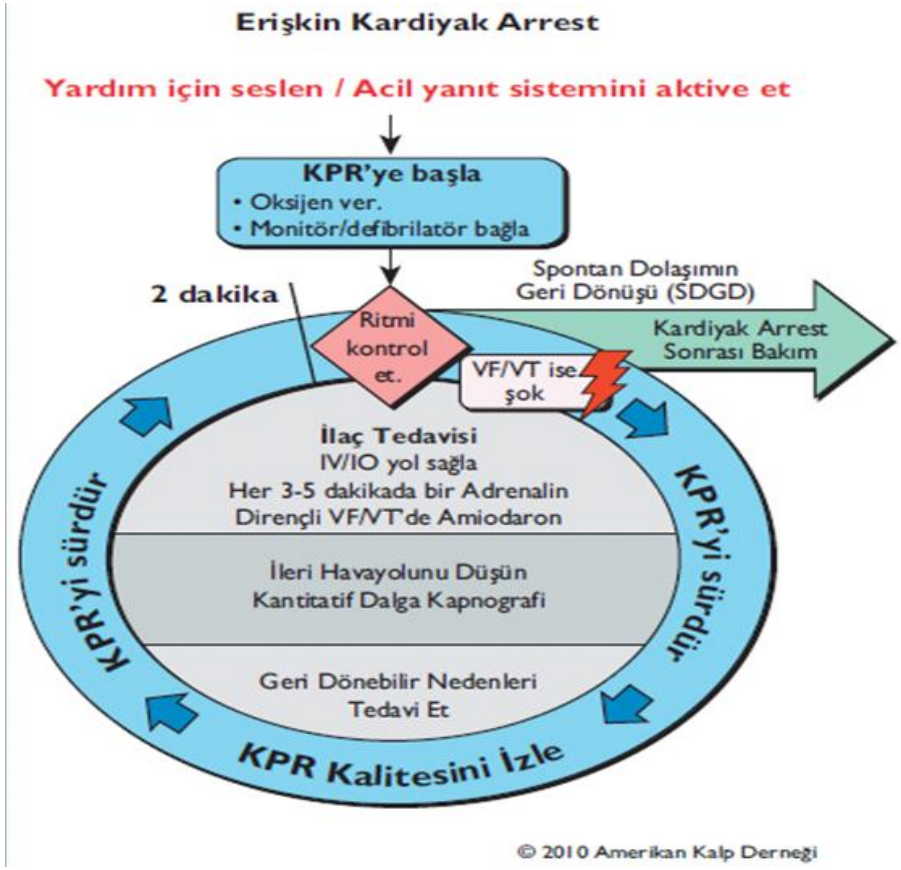
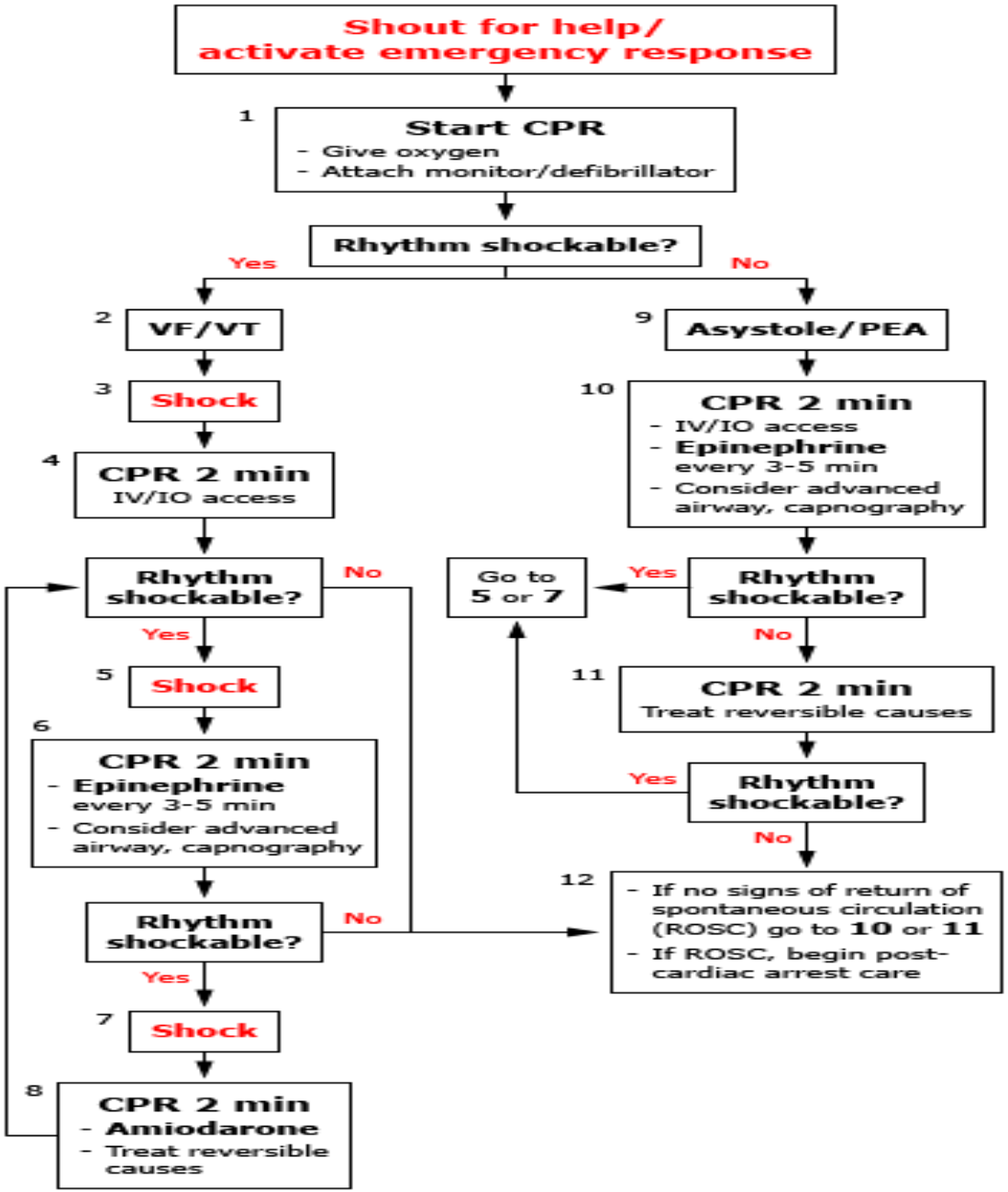


- En az 100 / dk göğüs kompresyonu
- 10-12 / dk solunum desteği



CPR quality
- Push hard (≥2 inches [5 cm]) and fast (≥100/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 30:2 compression-ventilation ratio
- Quantitative waveform capnography
  - If $PETCO_2$, <10 mm Hg, attempt to improve CPR quality
- Intra-arterial pressure
  - If relaxation phase (diastolic) pressure <20 mm Hg, attempt to improve CPR quality

Return of spontaneous circulation (ROSC)
- Pulse and blood pressure
- Abrupt sustained increase in $PETCO_2$ (typically ≥40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

Shock energy
- *Biphasic:* Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- *Monophasic:* 360 J

Drug therapy
- *Epinephrine IV/IO dose:* 1 mg every 3-5 minutes
- *Vasopressin IV/IO dose:* 40 units can replace first or second dose of epinephrine
- *Amiodarone IV/IO dose:*
  - First dose: 300 mg bolus.
  - Second dose: 150 mg.

Advanced airway
- Supraglottic advanced airway or endotracheal intubation
- Waveform capnography to confirm and monitor ET tube placement
- 8-10 breaths per minute with continuous chest compressions

Reversible causes
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

Resuscitation 85 (2014) 732–740

Contents lists available at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Review article

Adrenaline for out-of-hospital cardiac arrest resuscitation: A systematic review and meta-analysis of randomized controlled trials☆

Steve Lin[a,b,*], Clifton W. Callaway[c,1], Prakesh S. Shah[d,e,2], Justin D. Wagner[f,3], Joseph Beyene[d,g,4], Carolyn P. Ziegler[h,5], Laurie J. Morrison[a,b,3]

[a] Rescu, Li Ka Shing Knowledge Institute of St. Michael's Hospital, Toronto, Ontario, Canada
[b] Division of Emergency Medicine, Department of Medicine, University of Toronto, Toronto, Ontario, Canada
[c] Department of Emergency Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA
[d] Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada
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[f] Department of Biochemistry, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada
[g] Population Genomics Program, Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, Ontario, Canada
[h] Health Sciences Library, St. Michael's Hospital, Toronto, Ontario, Canada

G Model
RESUS-5946; No. of Pages 9
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Resuscitation xxx (2014) xxx–xxx

Contents lists available at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Review article

Efficacy of vasopressin during cardio-pulmonary resuscitation in adult patients: A meta-analysis

Amitava Layek[a], Souvik Maitra[b], Sugata Pal[c], Sulagna Bhattacharjee[b,*], Dalim K. Baidya[d]

[a] Department of Anaesthesiology, CNBC, New Delhi, India
[b] Department of Anaesthesiology & Intensive Care, All India Institute of Medical Sciences, New Delhi, India
[c] Department of Anaesthesiology & Intensive Care, JPNATC, All India Institute of Medical Sciences, New Delhi, India
[d] Department of Anaesthesiology & Intensive Care, CDER, All India Institute of Medical Sciences, New Delhi, India

Resuscitation 85 (2014) 350–358

Contents lists available at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Clinical paper

Adrenaline (epinephrine) dosing period and survival after in-hospital cardiac arrest: A retrospective review of prospectively collected data☆

Sam A. Warren[a,b,c,*], Ella Huszti[a,b], Steven M. Bradley[b,f], Paul S. Chan[d,e], Chris L. Bryson[b,f], Annette L. Fitzpatrick[c,g,h], Graham Nichol[a,b,i], for the American Heart Association's Get With the Guidelines-Resuscitation (National Registry of CPR) Investigators[1]

[a] University of Washington-Harborview Center for Prehospital Emergency Care, Seattle, WA, United States
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[c] Department of Epidemiology, Seattle, WA, United States
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[f] Health Services Research and Development Service, Veterans Affairs Puget Sound Health Care System, Seattle, WA, United States
[g] University of Washington, Collaborative Health Studies Coordinating Center, United States
[h] University of Washington, Department of Global Health, Seattle, WA, United States
[i] Clinical Trial Center, Department of Biostatistics, Seattle, WA, United States

Goto et al. Critical Care 2013, 17:R188
http://ccforum.com/content/17/5/R188

CRITICAL CARE

RESEARCH Open Access

Effects of prehospital epinephrine during out-of-hospital cardiac arrest with initial non-shockable rhythm: an observational cohort study

Yoshikazu Goto[1*], Tetsuo Maeda[1] and Yumiko Nakatsu Goto[2]

Abstract

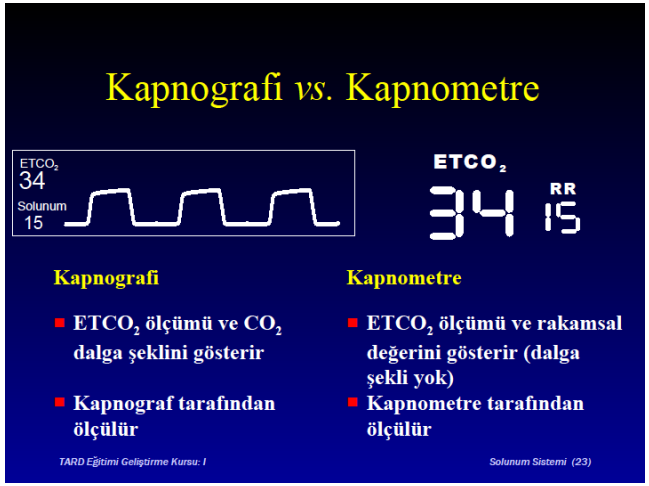
Introduction: Few clinical trials have provided evidence that epinephrine administration after out-of-hospital cardiac arrest (OHCA) improves long-term survival. Here we determined whether prehospital epinephrine administration would improve 1-month survival in OHCA patients.

Methods: We analyzed the data of 209,577 OHCA patients; the data were prospectively collected in a nationwide Utstein-style Japanese database between 2009 and 2010. Patients were divided into the initial shockable rhythm (n = 15,492) and initial non-shockable rhythm (n = 194,085) cohorts. The endpoints were prehospital return of spontaneous circulation (ROSC), 1-month survival, and 1-month favorable neurological outcomes (cerebral performance category scale, category 1 or 2) after OHCA. We defined epinephrine administration time as the time from the start of cardiopulmonary resuscitation (CPR) by emergency medical services personnel to the first epinephrine administration.

Results: In the initial shockable rhythm cohort, the ratios of prehospital ROSC, 1-month survival, and 1-month favorable neurological outcomes in the non-epinephrine group were significantly higher than those in the epinephrine group (27.7% vs. 22.8%, 27.0% vs. 15.4%, and 18.6% vs. 7.0%, respectively; all P < 0.001). However, in the initial non-shockable rhythm cohort, the ratios of prehospital ROSC and 1-month survival in the epinephrine group were significantly higher than those in the non-epinephrine group (18.7% vs. 3.0% and 3.9% vs. 2.2%, respectively; all P < 0.001) and there was no significant difference between the epinephrine and non-epinephrine groups for 1-month favorable neurological outcomes (P = 0.62). Prehospital epinephrine administration for OHCA patients with initial non-shockable rhythms was independently associated with prehospital ROSC (adjusted odds ratio [aOR], 8.83, 6.18, 4.32; 95% confidence interval [CI], 8.01-9.73, 5.82-6.56, 3.98-4.69; for epinephrine administration times ≤9 min, 10-19 min, and ≥20 min, respectively), with improved 1-month survival when epinephrine administration time was <20 min (aOR, 1.78, 1.29; 95% CI, 1.50-2.10, 1.17-1.43; for epinephrine administration times ≤9 min and 10-19 min, respectively), and with deteriorated 1-month favorable neurological outcomes (aOR, 0.63, 0.49; 95% CI, 0.48-0.80, 0.32-0.71; for epinephrine administration times 10-19 min and ≥20 min, respectively).

Conclusions: Prehospital epinephrine administration for OHCA patients with initial nonshockable rhythms was independently associated with achievement of prehospital ROSC and had association with improved 1-month survival when epinephrine administration time was <20 min.

Hava Yolu Doğrulama



- Kapnografi göğüs basılarının etkinliğini ve SDGD saptamada kullanılan fizyolojik bir göstergedir.
- **PETCO2**
  - 35-40 mmHg normal
  - <10 mmHg etkin olmayan göğüs

Hipotermi

out-of-hospital VF cardiac arrest. Cooling was initiated within minutes to hours after ROSC and a temperature range of 32–34 °C was maintained for 12–24 h. Two studies with historical control groups

G Model
RESUS 5971 1–5
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Resuscitation xxx (2014) xxx–xxx
Contents lists available at ScienceDirect
Resuscitation
journal homepage: www.elsevier.com/locate/resuscitation

Clinical Paper

Outcomes of hanging-induced cardiac arrest patients who underwent therapeutic hypothermia: A multicenter retrospective cohort study☆

Jonghwan Shin[a,*], Huijai Lee[a], Jinjoo Kim[b], Joonghee Kim[c], Seungpill Choi[d], Kyungwoon Jeung[e], Insoo Cho[f], Gyeongcheol Cha[g], Giwoon Kim[h], Chul Han[i], Donghoon Lee[j], Kyunam Park[d], Giljoon Suh[k], Seongyoun Hwang[l]

[a] Department of Emergency Medicine, Seoul Metropolitan Government-Seoul National University Boramae Medical Center, Seoul, Republic of Korea
[b] Department of Emergency Medicine, Gachon University Gill Hospital, Incheon, Republic of Korea
[c] Department of Emergency Medicine, Seoul National University Bundang Hospital, Seongnam, Republic of Korea
[d] Department of Emergency Medicine, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea
[e] Department of Emergency Medicine, Chonnam National University Hospital, Gwangju, Republic of Korea
[f] Department of Emergency Medicine, KEPCO Medical Center, Seoul, Republic of Korea
[g] Department of Emergency Medicine, Wonju College of Medicine, Yonsei University, Wonju, Republic of Korea
[h] Department of Emergency Medicine, Aju University Hospital, Suwon, Republic of Korea
[i] Department of Emergency Medicine, College of Medicine, Ewha Womans University, Seoul, Republic of Korea
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[l] Department of Emergency Medicine, Sungkunkwan University School of Medicine, Samsung Changwon Hospital, Changwon, Republic of Korea

G Model
RESUS 5964 1–5
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Resuscitation xxx (2014) xxx–xxx
Contents lists available at ScienceDirect
Resuscitation
journal homepage: www.elsevier.com/locate/resuscitation

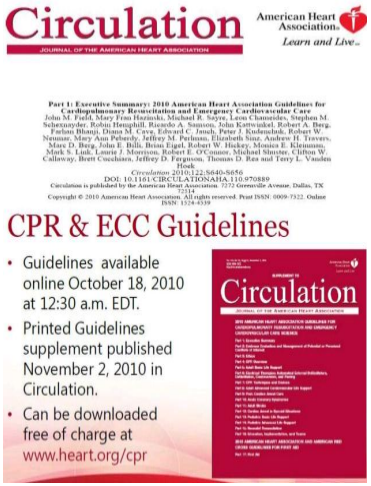
Clinical Paper

Neurologic outcome in comatose patients resuscitated from out-of-hospital cardiac arrest with prolonged downtime and treated with therapeutic hypothermia☆

Won Young Kim[a,b], Tyler A. Giberson[a], Amy Uber[a], Katherine Berg[a,c], Michael N. Cocchi[a,d], Michael W. Donnino[a,c,*]

[a] Department of Emergency Medicine, Beth Israel Deaconess Medical Center, Boston, MA, United States
[b] Department of Emergency Medicine, Ulsan University College of Medicine, Asan Medical Center, Seoul, Republic of Korea
[c] Department of Medicine, Division of Pulmonary and Critical Care, Beth Israel Deaconess Medical Center, United States
[d] Department of Anesthesia Critical Care, Division of Critical Care, Beth Israel Deaconess Medical Center, United States

Kaynaklar


Circulation
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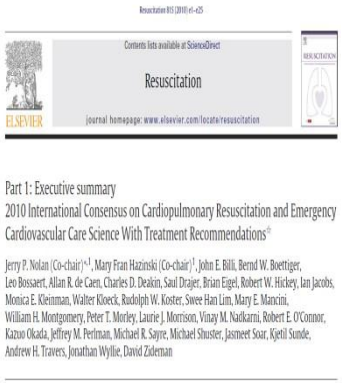
JOURNAL OF THE AMERICAN HEART ASSOCIATION
Part 1: Executive Summary: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care
CPR & ECC Guidelines
• Guidelines available online October 18, 2010 at 12:30 a.m. EDT.
• Printed Guidelines supplement published November 2, 2010 in Circulation.
• Can be downloaded free of charge at www.heart.org/cpr
Circulation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European Resuscitation Council Guidelines for Resuscitation 2010
Section 8. Cardiac arrest in special circumstances: Electrolyte abnormalities, poisoning, drowning, accidental hypothermia, hyperthermia, asthma, anaphylaxis, cardiac surgery, trauma, pregnancy, electrocution

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Section 4. Adult advanced life support

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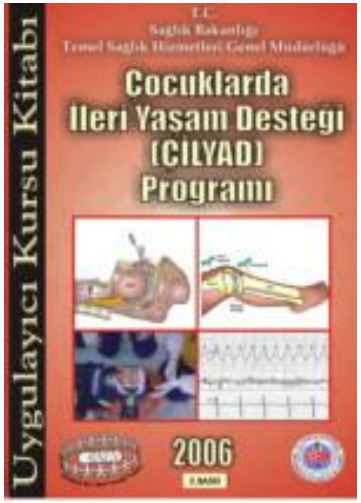
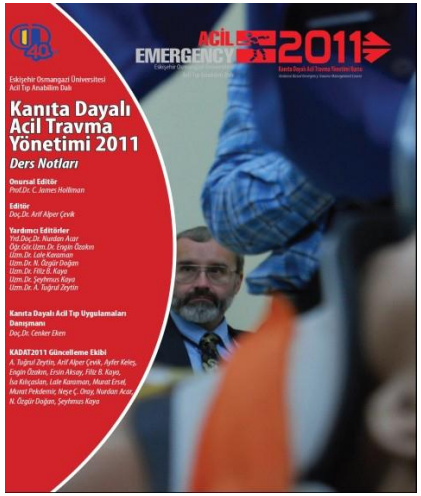
European Resuscitation Council Guidelines for Resuscitation 2010
Section 2. Adult basic life support and use of automated external defibrillators


Uygulayıcı Kursu Kitabı
Çocuklarda İleri Yaşam Destekli (ÇİLYAD) Programı
2006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Kanıta Dayalı Acil Travma Yönetimi 2011
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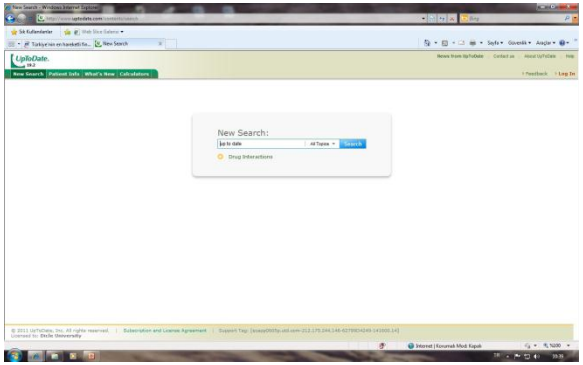
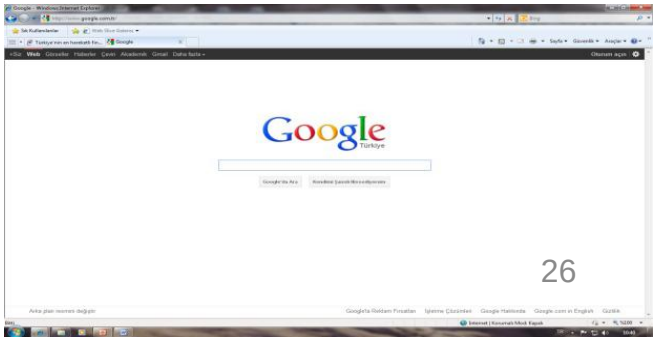
Tintinalli's
EMERGENCY MEDICINE


New Search: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