Elektif non-kardiyak cerrahi geçirecek erişkinlerin pre-operatif değerlendirme kılavuzu: Avrupa Anesteziyoloji Derneği'nden güncellenmiş önerilerin özeti

Pre-operative evaluation of **adults undergoing elective noncardiac surgery**: **Updated guideline** from the **European Society** of **Anaesthesiology**.

De Hert S, Staender S, Fritsch G, Hinkelbein J, Afshari A, Bettelli G, Bock M, Chew MS, Coburn M, De Robertis E, Drinhaus H, Feldheiser A, Geldner G, Lahner D, Macas A, Neuhaus C, Rauch S, Santos-Ampuero MA, Solca M, Tanha N, Traskaite V, Wagner G, Wappler F.

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BİLGİ

27.12.2018 tarihinde Prof. Stefan De Hert (ESA President) ve Dr. Arash Afshari (ESA Guidelines Committee Chair) tarafından verilen izinle ESA tarafından güncellenen 'Elektif non-kardiyak cerrahi geçirecek erişkin hastaların pre-operatif değerlendirme kılavuzu Türkçe'ye çevrilmiştir. Atıf yapılacağı zaman Türk Anestezi ve Reanimasyon Dergisi'nde yayınlanacak olan Güncellenmiş Önerilerin özeti değil kılavuzun orjinali kaynak gösterilecektir.

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European Society of Anaesthesiology ESA

KISALTMALAR

Altı (6) dk YT: 6 Dakikalık Yürüme Testi

ABH: Akut Böbrek Hasarı

ACS (**A**merican **C**ollege of **C**ardiology): Amerikan Kardiyoloji Derneği

AHA (**A**merican **H**eart **A**ssociation): Amerikan Kalp Birliği

AKEİ: Anjiotensin Konverting Enzim İnhibitörü

ARB: Anjiotensin Reseptör Blokürü

ASA (**A**merican **S**ociety of **A**nesthesiologists): Amerikan Anesteziyologlar Derneği

DECREASE (**D**ucth **E**chocardiographic **C**ardiac **R**isk **E**valuation **A**pplying **S**tress **E**chocardiography): Stres ekokardiyografi uygulaması Hollanda ekokardiyografik kardiyak risk değerlendirmesi

DMAH: Düşük Molakül Ağrılıklı Heparin

EBA (**E**uropean **B**oard of **A**naesthesiology): Avrupa Anesteziyoloji Kurulu

ESC (**E**uropean **S**ociety of **C**ardiology): Avrupa Kardiyoloji Derneği

FEV: Zorlu Ekspiratuar Volüm

FVK: Fonksiyonel Vital Kapasite

GFH: Glomerüler Filtrasyon Hızı

GRADE (Grading of **R**ecommendationds, **A**ssessment, **D**evelopment and **E**valuation): Öneri oluşturma, geliştirme ve değerlendirmenin derecelendirilmesi

HES: Hidroksi Etil Nişasta

İKE: İnspiratuar Kas Egzersizleri

İS: İnsentif Spirometri

KBH: Kronik Böbrek Hastalığı

Kr: Kreatinin

MAOİ: Mono-Amino-Oksidaz İnhibitörü

NSAİ: Non-Steroid Anti-inflamatuar

NSPQIP (Ulusal Cerrahi Kalite Geliştirme Programı)

OC-MRS: Obezite Cerrahisi-Mortalite Risk Skoru

OUAS: Obstrüktif Uyku Apne Sendromu

Pİ max: Maksimum İnspiratuar Basınç

PICOTS (**P**opulations, **I**nterventions, **C**omparators, **O**utcomes, **T**iming, **S**etting): Popülasyonlar, müdahaleler, karşılaştırıcılar, sonuçlar, zamanlama, ortam

PPK:Postoperatif Pulmoner Komplikasyon

PRY: Postoperatif Respiratuar Yetmezlik

RCRI (**R**evised **C**ardiac **R**isk **I**ndex): Revize Kardiyak Risk İndeksi

RKÇ: Randomize Kontrollü Çalışma

RO: Risk Oranı **RR**: Rölatif Risk

RRT: Renal Replasman Tedavisi

SSGİ: Selektif Serotonin Gerialım İnhibitörü

TKK: Trombosit Kompleks Konsantresi

TUG (**T**imed **U**p and **G**o): **ZAKY** (**Z**amanlı **A**yağa **K**alkma **Y**ürüme)

ÜDIT: Üst Dudak Isırma Testi

VKA: Vitamin K Antagonisti

VKİ: Vücut Kitle İndeksi

YOAK: Yeni Nesil Oral Antikoagülan

ZL: Zor Laringoskopi

ZMV: Zor Maske Ventilasyonu

Öneri	GRADE	Kaynak
1. Pre-operatif konsültasyon kliniği nasıl organize olmali? *1.1. Hastalar nasıl, ne zaman ve kim tarafindan pre-operatif olarak değerlendirilmeli?*	**2B**	16-19
• Mümkünse iyi tasarlanmış standardize anketlere dayanan pre-operatif bilgisayar tabanlı değerlendirme araçlarının kullanılmasını tavsiye ederiz; kullanımı değerlendirme kalitesini artırır.	**2C**	20
• Pre-operatif değerlendirmede bağımsızlık düzeyi, düşkünlük ve kaygı düzeyi gibi fonksiyonel ölçümlerin yer almasını öneririz.	**1B**	21-27,31
• Hasta sonuçlarının iyileştirilmesinde, önerilen pre-operatif müdahalelerin uygulanması için pre-operatif değerlendirmenin planlanan girişimden yeterli bir süre önce yapılmasını tavsiye ederiz.	**2C**	32
• Ameliyat öncesi değerlendirme bir hemşire veya başka bir hekim tarafından yapılabilir ama bir anestezi doktoru tarafından sonuçlandırılmasını öneririz.	**1C**	33,34
1.2. Pre-operatif riskler hakkında hasta nasıl bilgilendirilmelidir?		
• Hastalar için çok önemli olduğundan, her pre-operatif konsültasyonda bilgilendirmenin mutlaka dahil edilmesini öneririz.	**1B**	18,36-49
• Hasta eğitiminde tercih edilen format olarak web üzerinden kolaylıkla uygulanabilecek multimedya sunumlarını tavsiye ederiz.	**2B**	18,39,44,45,48, 49,53,54
• Klinisyenlerin iletişim becerilerinin geliştirilmesi için sürekli çaba gösterilmesini öneririz.	**1B**	55

2. Pre-operatif değerlendirilme nasıl yapılmalıdır? *2.1. Spesifik klinik durumlar*		
Kardiyovasküler hastalık • Kardiyak hastalığı olan ve düşük veya orta riskli non-kardiyak cerrahi planlanan seçilmiş hastaların, bir anesteziyolog tarafından kardiyolojik değerlendirme ve medikal optimizasyon için sevk edilmesini tavsiye ederiz.	**2C**	6
• Kardiyak peri-operatif risk sınıflamasında NSQIP modeli ya da RCRI öneririz.	**1B**	6
• Yüksek riskli hastalarda, majör cerrahiden önce ve 48 saat sonra kardiyak troponin değerlendirmesini tavsiye ederiz.	**2B**	6
• Yüksek riskli hastalarda BNP ölçümü, peri-operatif ve geç dönem kardiyak olayları ortaya koymada bağımsız prognostik bir belirteç olarak düşünülmesini tavsiye ederiz.	**2B**	6
• Peri-operatif dönemde beta blokür kullanımına devam edilmesine, bu tedaviyi alan hastalarda öneririz.	**1B**	66
• Yüksek riskli cerrahi öncesinde beta blokür başlanmasını, en az 2 klinik risk faktörü veya en az ASA 3 olan hastalarda tavsiye ederiz.	**2B**	6
• Bilinen iskemik kalp hastalığı veya miyokard iskemisi olan hastalarda pre-operatif beta-blokür başlanmasını tavsiye ederiz.	**2B**	6
• Non-kardiyak cerrahi geçirecek hastalarda oral beta blokür başlanacağı zaman ilk tercih olarak atenolol veya bisoprolol düşünülmesini tavsiye ederiz.	**2B**	6
• Peri-operatif dönemde aspirin tedavisine devam edilmesine, peri-operatif kanama riskine karşı trombotik komplikasyon risk kıyaslamasına dayanarak bireysel karar verilmesini tavsiye ederiz.	**2B**	6
• Aspirin tedavisinin kesilmesini, cerrahi sırasında hemostaz sağlanmasının zor olması beklenen hastalarda tavsiye ederiz.	**2B**	6

Respiratuar hastalık ve obstrüktif uyku apne sendromu • Kardiyotorasik cerrahi geçirmeyecek hastalarda postoperatif komplikasyon riskini tahmin etmede pre-operatif tanısal spirometri önermiyoruz.	**1C**	80,82
• Peri-operatif yönetimi nadiren değiştirdiği için pre-operatif akciğer grafisini rutin olarak önermiyoruz.	**1C**	78,79,81,82
• OUAS hastaları, olası zor havayolu riski taşıdıklarından dikkatli değerlendirilmelidir ve erken postoperatif dönemde özel dikkat gösterilmesini öneririz.	**1B**	94,95
• OUAS taraması için polisomnografi testi (altın standart) imkanı yoksa, spesifik anketler yapılmasını öneririz. STOP BANG anketi en sensitif, spesifik ve en geçerli olanıdır.	**1B**	91,99,106
• OUAS'li hastalarda hipoksik olayları azaltmak için peri-operatif CPAP kullanımı tavsiye ederiz.	**2B**	95,96
• Postoperatif atelektazi, pnömoni ve hastanede kalış süresini azaltmada pre-operatif inspiratuar kas egzersizi tavsiye ederiz.	**2A**	108
• Postoperatif pulmoner komplikasyonların önlenmesinde pre-operatif insentif spirometri tavsiye etmeyiz.	**2A**	110
• Malnütrisyonun düzeltilmesini tavsiye ederiz.	**2C**	111.
• Postoperatif komplikasyonları azaltmada cerrahiden en az 4 hafta önce sigaranın bırakılmasını tavsiye ederiz.	**2A**	122,123
• Postoperatif komplikasyonların azaltılması açısından yeterli kanıt olmadığı için kısa süreli sigara bırakmayı (< 4 hafta) tavsiye etmeyiz.	**2A**	121
Böbrek hastalığı • Postoperatif ABH riski olan hastaları tespit etmek için bilinen faktörlerin (ileri yaş, obezite vs) göz önünde bulundurulmasını tavsiye ederiz. Bu grupta olası nefrotoksik ilaç uygulamalarında, volüm durumunun ayarlanmasında ve kan basıncı kontrolünde ekstra dikkat gerekir.	**2C**	142-144

• Postoperatif ABH riski olan hastaları tespit etmek için ek test sonuçlarının(BUN/Kr oranı, pre-operatif Hb düzeyi, peri-operatif Hb düşüklüğü) göz önünde bulundurulmasını tavsiye ederiz.	**2B**	145,146,148
• Renal fonksiyon değerlendirilmesinde ve non-kardiyak cerrahi geçiren renal fonksiyon hasarı olan hastalarda postoperatif morbidite ve mortaliteyi tahmin etmede serum kreatinininden ziyade eGFH kullanılmasını tavsiye ederiz.	**2B**	149-151
• Non-kardiyak cerrahi geçirecek hastaların böbrek fonksiyonunun korunmasında pre-operatif statin tedavisinin ek bir değeri yoktur.	**2B**	152-153
Diabet • Diabetes mellituslu hastalarda, bilinen veya şüpheli kardiyovaküler hastalık için olan kılavuzlardakine uygun şekilde yönetimini tavsiye ederiz.	**2A**	7,176,192,193
• Pre-operatif değerlendirmede rutin kan şekeri ölçümünü, majör ortopedik veya kardiyovasküler cerrahi geçirecek hastalar dışında, elektif non-kardiyak cerrahi geçirecek sağlıklı bireylere tavsiye etmeyiz.	**2A**	173,178
• Düzensiz glukoz regülasyonu riski yüksek olan hastalarda, peri-operatif glukoz kontrolüne özel dikkat gösterilmesi gerektiğinin belirtilmesini öneririz.	**1C**	166,173
• Kan şekeri ve HbA1c testleri, bilinen diabetes mellituslu hastalarda ve majör ortopedik ve vasküler cerrahi planlanan hastalarda tavsiye ederiz.	**2A**	166,175,190
• Uzun süredir diabetik olan hastalarda dikkatli bir havayolu değerlendirmesi yapılmasını tavsiye ederiz.	**2C**	194
Obezite • Obez hastaların pre-operatif değerlendirmesinin; en azından STOP-BANG anketi, klinik değerlendirme, EKG, oksimetre ve/veya polisomnografi içermesini tavsie ederiz.	**2B**	103,202,209, 255-262

• Obez hastalarda patolojik glukoz/HbA1c ve aneminin saptanması için laboratuvar incelemesi yapılmasını tavsiye ederiz.	**2C**	218,220,223
• Boyun çevresi nin en az 43 cm olması ve yüksek Mallampati skoru obez hastalarda zor entübasyon için belirleyicidir.	**2C**	209
• Obez hastalarda hipoksik olayları azaltabileceğinden peri-operatif CPAP/PSV/BIPAP kullanımını tavsiye ederiz.	**2C**	255,264
Koagülasyon bozuklukları • Hemostaz bozukluğu olan hastaların tanımlanması ve/veya cerrahi sırasında ve sonrasında artan kanama komplikasyonları için halen en iyi yöntem kabul edilen Fizik muayene dahil kanama öyküsünün değerlendirilmesini öneririz.	**1B**	268
• Ayrıntılı öykü alınmasına ek olarak, koagülasyon bozukluklarının daha iyi tanımlanmasında laboratuvar testlerinin kullanımını tavsiye ederiz.	**2C**	269,270
• Basit bir laboratuvar testi olan trombosit sayımı, prognostik değere sahiptir ve değerlendirmede kullanılmasını tavsiye ederiz.	**2A**	272,273
• Devam eden antikogülan tedavisi altında katarakt cerrahisi, topikal anestezi ile deneyimli bir cerrah tarafından titiz bir korneal insizyon yapılması şartıyla güvenle yapılabilir.	**2B**	274
• Non-kardiyak cerrahi, koroner stent takıldıktan sonra tekli antiplatelet tedavi alan hastalarda güvenle yapılabilir.	**2B**	277
• Ne trombosit inhibitörü alınması öyküsünden ne de PFA-100'deki bulgulardan peri-operatif kanama öngörülebilir. Aspirin alan hastalarda kalça kırığı ameliyatının iyi tolere edildiği düşünülür ve ameliyattan 3 gün önce klopidogrel tedavisinin kesilmesi majör kanamayı önlemek için yeterlidir.	**2B**	269-271
• Kalça kırıklı hastalarda, peri-operatif dönemde klopidogrel kesilmeksizin cerrahinin güvenle yapılacağını öneririz.	**1B**	278,279

• Varfarin ilişkili koagülopatinin antagonize edilmesi gerekiyorsa öncelikle TKK kullanımalıdır, eğer TKK yoksa K vitamini ve TDP kombinasyonunu bir seçenek olarak tavsiye ederiz.	**2C**	282, 283
• Olası riskleri nedeniyle spesifik hasta gruplarında klopidogrelin kesilmesi için kanıta dayalı yaklaşımla karar alınmasını öneririz.	**1C**	278
• Elektif cerrahi girişimler, peri-operatif kanama riskini arttırmadan klopidogrel tedavisi altında güvenle yapılabilir.	**2C**	280
Anemi ve pre-operatif kan koruma stratejileri • Bilinen demir eksikliği anemisi olan hastalarda, elektif cerrahi öncesinde intravenöz demir uygulanmasını öneririz.	**1B**	288-292
• Demir eksikliği anemisi olanlarda, elektif cerrahi öncesi oral yerine parenteral demir uygulanmasını öneririz.	**1C**	292
• Elektif cerrahi geçirecek anemik hastalarda ve aneminin diğer nedenleri dışlanmış veya tedavi edilmiş olan postoperatif anemi riski taşıyan hastalarda eritropoetin takviyeleri uygulanması tavsiye ederiz.	**2B**	293-295
• En iyi sonuçlar için peri-operatif anemi yönetiminde intravenöz demir ile eritropoezi uyaran ajanların birlikte kullanılmasını öneririz**.**	**1C**	296,297
• HKY ilkeleri ve hedefe yönelik transfüzyon politikasının, hastanelerin günlük pratiğine geçmesini öneririz.	**1C**	298-301,303
• Eklem artroplastisi geçirecek anemik veya postoperatif anemi riski taşıyan hastalarda traneksamik asit kullanılmasını öneririz.	**1C**	304
• Fazla kan kaybı beklenen ortopedik girişim geçirecek tüm hastalarda hücre kurtarma yöntemi tavsiye ederiz.	**2B**	295,305

• Pre-operatif otolog kan bağışı (veya akut normovolemik hemodilüsyon) gibi önlemlerin hastanın ihtiyacı ile cerrahi tipine göre dikkate alınmasını tavsiye ederiz.	**2C**	306,308
Geriatrik hasta • Yaşlılarda fonksiyonel kapasite bozulabilir ve fonksiyonel sonucu öngörmeyi sağlar. Risk altındaki hastaları belirleme ve/veya komplikasyonları öngörme amacıyla tercihen kapsamlı bir geriatrik muayene ile fonksiyonel kapasiteyi değerlendirmeyi öneririz.	**1B**	311,312,314, 316-329
• Komplikasyonları öngören bağımsızlık seviyesi bozulmuş olabilir. Günlük Yaşamın Temel ve Enstrümantal Faaliyetleri gibi onaylanmış skorlama sistemleri kullanılarak bağımsızlık derecesinin belirlenmesi öneririz.	**1B**	312,314,330-332
• Yaşlanma ile daha sık rastlanan komorbidite ve multimorbiditeler, artan morbidite ve mortalite ile ilişkilidir. Komorbidite/multimorbiditeyi Charlson Komorbidite İndeksi gibi yaşa göre ayarlanmış skorlara göre değerlendirmeyi öneririz.	**1B**	312,314,333-337
• Çoklu ilaç ve uygunsuz ilaç kullanımı (çoğunlukla antikolinerjik veya sedatif-hipnotik ilaçlar) oldukça yaygındır ve komplikasyonlar ile mortaliteyi öngörmede faydalıdır. Uygun peri-operatif ilaç kullanımının ayarlanmasını öneririz. İlaçların, Beers kriteri ile yapılandırılmış şekilde değerlendirmesini öneririz.	**1B**	316,317,319, 343
• Kognitif (bilişsel) bozulma sık görülür ve genellikle eksik değerlendirilir. Kognitif bozukluk anlama yetisini etkileyebilir, bu da aydınlatılmış onamın uygun şekilde alınmasını engelleyebilir. Bilişsel bozulma, komplikasyonlar ve mortalite açısından prediktiftir. Bilişsel işlevin, onaylanmış araçlarla değerlendirilmesini öneririz	**1B**	311,312,314,339-341

• Depresyon, yaşlı kişilerde sık görülür ve artmış komplikasyonlarla ilişkilidir. Depresyonun onaylanmış araçlarla değerlendirilmesini öneririz.	**1B**	311,314
• Postoperatif deliryum için ESA'nın kanıta dayalı ve uzlaşı temelli postoperatif deliryum kılavuzlarına göre risk faktörlerinin değerlendirilmesi ve yönetilmesini öneririz.	**1B**	311
• Duyusal bozukluk, iletişimi zayıflatır ve postoperatif deliryum ile ilişkilidir. Duyusal bozukluğun değerlendirilmesini ve peri-operatif ortamda duyusal yardımcılar olmadan geçen süreyi en aza indirmeyi öneririz.	**1B**	25,312,314
• Malnütrisyon sık görülür ve genellikle eksik değerlendirilir ve komplikasyonlar açısından prediktiftir. Obezite, artmış böbrek hasarı riski ile ilişkilidir. Risk altındaki hastalarda uygun müdahaleleri uygulamak ve pre-operatif açlığı en aza indirmek için beslenme durumunu (tercihen Beslenme Risk Taraması) değerlendirmeyi öneririz.	**1B**	143,312-314,343,344
• Düşkünlük, aşırı bir hassasiyet durumudur. Morbidite ve mortalite için prediktiftir. Düşkünlüğün; tek sefer yapılan ölçümlerden kaçınılarak Fried Skorlaması veya Edmonton Düşkünlük Ölçeği gibi yapılandırılmış, multimodal bir yolla değerlendirilmesini öneririz.	**1B**	22,23,311,312, 314,337,339, 345-360
Alkol ve uyuşturucu suistimali ve bağımlılığı • Pre-operatif AKB tanısında tek başına laboratuvar testi veya tek başına anket kullanılmasından daha üstün olan standart CAGE anketi ile GGT ve CDT gibi laboratuvar testlerin kombine kullanımını öneririz.	**1B**	376
• Pre-operatif AKB tanısında, sadece en yüksek sensitiviteye sahip GGT ve CDT gibi biyobelirteçlerin kullanımını öneririz.	**1C**	371
• AKB ve YMK olan hastaların belirlenmesinde, bir anestezi uzmanının yaptığı görüşmeden daha üstün sayılan bilgisayar	**1C**	370, 374

ortamında hastanın kendisinin uyguladığı anketin kullanılmasını öneririz.		
• Pre-operatif değerlendirmede AKB'nin saptanmasında, AUDIT-C ve AUDIT skorlarının birbiri yerine kullanılmamasını öneririz.	**1C**	370
• Pre-operatif olarak AKB belirlenmesinde NIAAA-4Q kullanımını tavsiye ederiz.	**2C**	375
• Relaps profilaksisi ve yoksunluk semptomları için farmakolojik stratejiler de dahil olmak üzere postoperatif komplikasyon oranlarını önemli ölçüde azaltabileceği için pre-operatif olarak alkolün bırakılmasını öneririz.	**1B**	379,380
• Alkol bırakma desteklerinin zamanlaması, süresi ve yoğunluğu hakkında herhangi bir tavsiye verilemez.	**2A**	379
• Kokain tarama testinin pozitif çıkması, intraoperatif olumsuz hemodinamik değişikliklerle ile ilişkili olmayabilir. Bu nedenle hastaları değerlendirirken klinik kokain yoksunluk belirtilerinin göz önünde bulundurulmasını tavsiye ederiz.	**2C**	377,378
Nöromüsküler hastalık • Şiddetli, kontrolsüz ya da dekompanse nörolojik hastalığı olan, yakın zamanlı bir inme veya yüksek nörolojik komplikasyon riski taşıyan girişim geçirecek hastalarda erken pre-operatif konsültasyon yapılmasını tavsiye ederiz.	**2B**	381
• Vital kapasite ve FVK dahil olmak üzere pulmoner fonksiyon değerlendirmesini tavsiye ederiz. Kardiyak fonksiyonun değerlendirmesinde, olası kardiyomiyopatinin derecesini ölçmek için EKG çekilmesini ve TTE yapılmasını tavsiye ederiz.	**2B**	384
• Hasta sonuçlarını iyileştirebileceği için pre-operatif optimizasyon ve/veya tedavi yapılmasını tavsiye ederiz.	**2C**	381
2.2. *Aşağıdaki eşzamanlı tedavileri alanlar nasıl ele alınmalıdır?*		

Bitkisel ilaçlar		
• Hastalara özellikle peri-operatif dönemde kanama artışına neden olabilecek bitkisel ilaçlar veya diğer ilaçlarla birlikte NSAİ gibi hemostazı etkileyebilen ilaç alınımının dikkatlice sorulmasını tavsiye ederiz.	**2B**	391
• Bitkisel ilaçların ameliyattan 2 hafta önce kesilmesini tavsiye ederiz.	**2B**	391,399
• Elektif cerrahiyi ertelemeye yönelik bir kanıt yoktur, fakat beyin cerrahisinin intrakraniyal vakaları gibi "kapalı kompartmanlarda" yüksek riskli cerrahi için bu ilaçlarla olası hemostaz bozulmasının göz önünde bulundurulmasını tavsiye ederiz.	**2B**	391
Psikotropik ilaçlar • Kronik olarak trisiklik antidepresan (TAD) tedavisi alan hastalara, anestezi öncesinde kapsamlı bir kardiyak değerlendirme yapılmasını tavsiye ederiz.	**2B**	404,408
• Kronik depresyonlu hastalarda antidepresan tedavinin, anestezi öncesi kesilmemesini öneririz.	**1B**	424
• Peri-operatif olarak SSGİ tedavisinin kesilmesi için yeterli kanıt yoktur.	**2B**	409,420,421
• Geri dönüşümsüz MAOİ'lerinin, anesteziden en az 2 hafta önce kesilmesini öneririz. Altta yatan hastalığın nüksetmesini önlemek için geri dönüşümlü MAOİ ile değiştirilmesini öneririz.	**1C**	409
• Kronik şizofreni hastalarında peri-operatif olarak antipsikotik ilaç tedavisine devam edilmesini tavsiye ederiz.	**2B**	408
• Lityumun, ameliyattan 72 saat önce kesilmesini tavsiye ederiz.	**2B**	408
• Hastanın elektrolitleri normal sınırlardaysa, hemodinamik olarak stabilse ve yemek yiyip içebiliyorsa yeniden başlanabilir. Lityumun kan seviyeleri 1 hafta içinde kontrol edilmesini tavsiye ederiz.	**2B**	408

• Lokal anestezi altında minör cerrahi geçirecek hastalarda lityum tedavisine devam edilmesini tavsiye ederiz.	**2C**	408
• Bitkisel ilaçların ameliyattan 2 hafta önce kesilmesini tavsiye ederiz.	**2B**	399
Perioperatif köprüleme ve antikoagülan tedavi • VKA alan yüksek riskli hastalarda, mevcut ESA klinik kılavuzuna uygun olarak peri-operatif dönem için "köprüleme" stratejisi öneririz. Ancak hastanın tahmini tromboembolik riskine ve işlem sırasındaki kanama riskine bağlı "antikoagülasyon köprüleme" ihtiyacını belirlemek için bireyselleştirilmiş bir yaklaşım tavsiye ederiz.	**2C**	397
• Katarakt veya minör yumuşak doku cerrahisi gibi küçük cerrahi işlemlerde "köprüleme" tedavisi yerine VKA'ya devam edilmesini öneririz tavsiye ederiz.	**1B**	397
• *Pacemaker* ve defibrilatör cihazların implantasyonunda, DMAH ile "köprüleme" tedavisi yerine VKA tedavisine devam edilmesini öneririz.	**1B**	444,445
• YOAK alan hastalarda, kısa süreli YOAK kesintileri için DMAH ile "köprüleme" önermeyiz.	**1C**	307
2.3. H*angi pre-operatif testler uygulanmalı? http://nice.org.uk/guidance/ng45* *2.4. Havayolu nasıl değerlendirilmelidir?*		190
• ZMV ve zor entübasyon için tarama, anestezi için havayolu yönetimine ve aynı zamanda yoğun bakım ünitesinde ihtiyaç duyan tüm hastalarda ne zaman uygunsa o zaman yapılmasını öneririz. Tarama; tıbbi durumlar, operasyonlar, zor havayolu yönetimi öyküsü ve eğer varsa önceki anestezi kayıtlarının incelenmesini içerir.		
• Tarama, hastanın çizelgesinde belgelenmelidir.	**1A**	458

• Zor havayolu yönetimi için tek bir prediktif işaret kendi başına yeterli olmağından pre-anestezik değerlendirmede, farklı onaylanmış değerlendirme kriterlerinin kombinasyonunun kullanılmasını öneririz.	**1A**	467,470,475
• Uyanık hastalarda yatarken, otururken ve ayakta dururken geçerliliği olan Mallampati testi tavsiye edilmesine rağmen direkt laringoskopideki glottik görünüm arasındaki ilişki zayıftır.	**2B**	464,465
• Tek başına Mallampati sınıflandırılmasının, laringoskopik görünümün kesin olarak öngörülmesinde artık dikkate alınmamasını öneririz.	**1B**	461,464-467
• Olası ZMV değerlendirilmesini ve aşağıdaki faktörlerden iki veya daha fazlasının varlığına dayandırılmasını öneririz: En az 30 kg/m^2 olan VKİ; çene protrüzyonu ciddi biçimde sınırlı; horlama; sakal; Mallampati sınıf 3 veya 4; ve yaş en az 57 yaş.	**1C**	458-460
• Olası imkansız maske ventilasyonu değerlendirilmesini ve aşağıdaki faktörlerden üç veya daha fazlasının varlığına dayandırılmasını tavsiye ederiz: boyun ölçüsü değişiklikleri; erkek cinsiyet; OUAS; Mallampati sınıf 3 veya 4; ve sakal varlığı.	**2B**	460
• ÜDIT'nin tiromental mesafe (eşik: 6,5 cm) ve kesici dişler arası mesafe (ağız açıklığı: eşik: 4,5 cm) ile kombinasyonu, zor entübasyon için kolay uygulanabilen ve güvenilir bir prediktör olduğu için tavsiye ederiz.	**2A**	473,474
• Olası zor entübasyona yönelik değerlendirmelerde özellikle obezite, OUAS, diabet, fikse servikal omurga, KBB patolojileri ve preeklampsi gibi bazı tıbbi durumlara kesinlikle dikkat edilmesini tavsiye ederiz. Boyun çevresinin 45 cm'den fazla olması başka bir uyarı işaretidir.	**2C**	480
• Zor videolaringoskopi kolay öngörülemez çünkü şimdiye dek sadece birkaç çalışma bu soruyu ele almıştır.	**2C**	461,463,471

• Zor entübasyon için bir prediktör olarak ÜDIT ile *GlideScope* videolaringoskopi kullanılmasını öneririz.	**1B**	474
2.5. Risk indekslerinin ve biobelirteçlerin yeri *Risk indeksleri*		
• Non-kardiyak cerrahi geçiren hastalarda mortalite riskinin değerlendirilmesinde ASA-FS ve RCRI kullanılmasını öneririz.	**1B**	487,488,491-496
• Non-vasküler non-kardiyak cerrahi geçirecek hastalarda perioperatif kardiyovasküler risk belirlenmesinde RCRI kullanılmasını öneririz.	**1B**	64,487,498-502,505,506,509,511
• Peri-operatif morbidite riskini değerlendirmek için ASA-FS, RCRI, NSQIP MICA kullanımını öneririz.	**1C**	64,489-491,496,498-502,505,506,509,511
• Kalça kırığı cerrahisi geçirecek hastalarda peri-operatif mortalitenin değerlendirilmesinde Nottingham Kalça Fraktür Skorunun kullanılmasını tavsiye ederiz.	**2C**	517-522
• Postoperatif komplikasyon ve OUAS riskini değerlendirmek için STOP BANG anketinin kullanılmasını öneririz.	**1C**	103-106
Biyobelirteçler • Pre-operatif hsTnT ölçümü, koroner arter hastalığı riski olan ve majör cerrahi geçirecek hastalarda tavsiye ederiz.	**2C**	507,552-559
• Vasküler veya majör torasik cerrahi geçirecek orta ve yüksek riskli hastaların değerlendirilmesinde pre-operatif natriüretik peptit ölçümü öneririz.	**1C**	546-551
• Majör genel veya ortopedik cerrahi geçiren yüksek riskli hastaların değerlendirimlesinde pre-operatif natriüretik peptit ölçümü yapılmasını tavsiye ederiz.	**2C**	549-551
2.6. Postoperatif bulantı ve kusma • Yerel klinik koşullarına göre POBK kılavuzunun uygulanmasını öneririz.	**1B**	569-571

• Pre-anestezik değerlendirme sırasında pre-operatif POBK skorunun dahil edilmesini öneririz.	**2B**	569
• Skora göre, POBK oranını azaltmak için riske uyarlanmış multimodal yaklaşım yapılmasını öneririz.	**1B**	563-565,570,572,595,596
• Kılavuzun iyileştirilmesi ve personele olumlu geribildirim verilmesi için POBK oranının ölçümünü öneririz.	**1C**	570,572

Kanıt dereceleriyle ilgili açıklamalar

1B (orta derece kanıt) birçok hastaya uygulanacak güçlü öneri

1C (düşük derece kanıt) göreceli güçlü öneri

2B (orta derece kanıt) zayıf öneri

2C (düşük derece kanıt) zayıf öneri

Son Sözler

Non-kardiyak cerrahi geçiren erişkin hastanın pre-operatif değerlendirilmesine ilişkin önceki 2011 ESA kılavuzlarını güncelleyen bu rehber [1], iki ana klinik soruyu ele alan tavsiyelerde bulunur: pre- operatif konsültasyon polikliniği nasıl düzenlenmeli ve pre-operatif değerlendirme nasıl uygulanmalı? Bu soruları ele alırken, 2011'den sonra yayımlanan yeni kanıtlar tarandı ve farklı konulardaki önerilerin hiyerarşisini sağlamak için GRADE uyarınca değerlendirildi. İlgili tüm mevcut kanıtları aramak için sistematik bir yaklaşım izledik ve bu bilgiler, Avrupa'daki klinisyenlerin çeşitli klinik ortamlarında kolayca uygulayabilecekleri kapsamlı ve kullanışlı bir kılavuz sağlamak için bu alandaki uzmanlar tarafından yorumlandı. Önceden tanımlanmış bir protokol ve şeffaf metodoloji içeren sistematik bir inceleme, belirli bir klinik soruyu cevaplamak için sistematik olarak kanıtları toplar ve verilerin kullanılabilirliğine ve heterojenite seviyesine bağlı olan veri senteziyle (meta-analiz) birleştirir. Bizim yaklaşımımız bundan farklıdır, çünkü sistematik bir inceleme önerilerde bulunmaz. Rehberin hazırlanmasında ele alınan konuların büyüklüğünden, birkaç belirli PICO sorusunu ve genel kanıt kalitesini içerdiğinden, uygun veri sentezi için çok az alan vardı.

Mevcut öneri listesinin, pre-operatif değerlendirme ile ilgili soruların sadece bir kısmını kapsadığını ve klinik ortamda çok sayıda grup ve alt grubun bulunduğunu kabul ediyoruz. Yaygın olmayan hastalıklar, spesifik ilaçlar ve tedavi stratejileri iki nedenden dolayı kasten göz ardı edilmiştir. Birincisi, olası önerileri temel alan daha yaygın konular olduğu için daha az bilimsel kanıt bulunmaktadır. İkincisi, kapsamlı bir belge üretmeye çalışmak günlük klinik uygulamada yardımcı olamayacak kadar büyük bir şeyle sonuçlanabilirdi. Daha az yaygın durumlar için genel öneri; uzman tavsiyelerine güvenmek ve spesifik nadir klinik vakalarla en iyi nasıl başa çıkılacağına dair bilgi veren vaka raporları ve / veya vaka serileri için literatür taramasını yapmaktır.

Buna göre verilen öneriler, erişkin pre-operatif değerlendirme polikliniğinde en sık karşılaşılan bazı soruları ele almaktadır. Öneriler, okurların bu kanıtları yorumlamasına ve seçtiyse kendi "uzman görüşlerini" uygulamasına olanak vermesi gereken, ele alınan farklı konularda en son kanıtların bir özetine ve derecelendirmesine dayanmaktadır.

Çalışma grubu, çoğunlukla küçük olmak üzere mevcut ulusal yönergelerle kaçınılmaz olarak farklılıklar olacağının farkındadır. Farklılıklar, bazen uzman görüşüne yol açan düşük dereceli kanıtlar ve bunun sonucunda oluşan farklı yorumlamalarla ilgili olabilir. Bu nedenle, mevcut kılavuzun olası ulusal kılavuzların yerini alması amaçlanmamıştır, ancak farklı Avrupa ülkeleri arasında ortak bir yaklaşım geliştirmeleri için yardımcı olabileceğini umuyoruz.

Çalışma grubu, her Avrupalı anestezi uzmanına günlük pratiklerinde yardımcı olabileceğini umarak, pre-operatif değerlendirmede çeşitli önemli klinik konuların ele alınmasındaki son bilimsel temeli özetlemeyi amaçladı.

Çünkü pre-operatif değerlendirme ile ilgili birçok konuda iyi tasarlanmış ve yeterli güçlülükteli RKÇ'lerin azlığı, bu konuda daha fazla inisiyatif almamıza neden oldu. Bu rehberde ele alınan konuların bazıları için, hiçbir RKÇ yoktur. Kanıtın özellikle zayıf olduğu bir alan geriatrik hastalardır. Çalışmaların çoğunda, yaşlanan popülasyon bir öncelik içermez ve önerileri güçlü kanıtlara dayandırmak çok zorlaşır. Bununla birlikte, çeşitli dernekler, temel olarak uzman görüşlerine dayanarak yaşlıların farklı yönleriyle ilgili güçlü önerilerde bulunuyor gibi görünmektedir. Benzer şekilde, prognostik veya diagnostik testler ve hastalığın ciddiyetinin puanlanması üzerine yapılan çalışmalar randomize ve kontrollü bir tasarıma sahip olamaz. Bunun bir sonucu olarak, metodolojik açıdan bir önerinin yapılacağına dair kanıt düşük dereceye indirgenmiştir. Ancak ASA-FS, RCRI, NSQIP-MICA, POSSUM ve benzer diğer skorlar, binlerce hastada doğrulandı. Bu nedenle, GRADE metodolojisine güvenirken, kanıtların değerlendirilmesi ve önerilerin formüle edilmesi, bu tür konular için genellikle zordur ve değerli bilgilerin gözden kaçırılmaması için büyük özen gösterilmesi gerekir.

Bu kılavuzun temel amacı, pre-operatif değerlendirme ile ilgili konuları ele almaktır. Bu, pre-operatif işlemin başka önemli yönü olan pre-operatif optimizasyonun bir ele alınmadığı anlamına gelir (kısmen anemi ve POBK bölümü hariç). Bu, bilimsel yaklaşımımızın bir yetersizliği olarak görülebilmesine rağmen görüşümüz, optimizasyonun değerlendirmeden ayrı bir literatür araştırmasını ve kanıtların değerlendirilmesini hak edecek kadar farklı olduğudur.

Son olarak, bu kılavuzdaki ilkeler, ekleme olarak kabul edilmeli ve 2011 ESA tavsiyelerinin yerine geçmesi gerekmez. Kılavuzlar genellikle bir yönlendirme aracı olarak algılanır, ancak

önerilerimizin uygulanmadan önce yerel olarak değerlendirilmesi ve bazen uyarlanması gerektiğini takdir etmekteyiz. Bazı ülkeler ve ulusal dernekler kanıtları ve önerileri farklı şekilde değerlendirmeye karar verebilir. Kurumsal ya da ulusal gerekliliklere ve mevzuata ve cihazların, ilaçların ve kaynakların yerel mevcudiyetine bağlı olarak önerilerimizin benimsenebileceğini, değiştirilebileceğini veya hatta uygulanmayabileceğini vurgulamaktayız.

Teşekkür

Kılavuzlara yardım: Protokol geliştirme ve literatür taraması için Avusturya'nın Danube Üniversitesi Krems Kanıta Dayalı Tıp ve Klinik Epidemiyolojisi Departmanı Cochrane Austria.

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TEŞEKKÜR

27.12.2018 tarihinde Prof. Stefan De Hert (ESA President) ve Dr. Arash Afshari (ESA Guidelines Committee Chair) tarafından aşağıda belirtilen izinle ESA tarafından güncellenen 'Elektif non-kardiyak cerrahi geçirecek erişkin hastaların pre-operatif değerlendirme kılavuzunun orjinali Türkçe'ye çevrilmiştir. Çevriye, düzenlemeye ve kontrolüne katkı sağlayan Dr. Zeynep Dilmen, Dr.Gülfem Yalçın, Dr.Bengü Azer Kaptan, Dr.Uğur Adam, Dr.Damlasu S.Bağcaz, Dr.Ülgen Öztürk, Dr.Selin Bağcaz ve Dr.Selin Erel'e çok teşekkür ederiz.

Prof.Dr.Berrin Günaydın,
Gazi Üniversitesi Tıp Fakültesi Anesteziyoloji ve Reanimasyon Anabilim Dalı, Öğretim Üyesi
Prof.Dr.Ömer Kurtipek,
Türk Anesteziyoloji ve Reanimasyon Derneği Başkanı ve
Gazi Üniversitesi Tıp Fakültesi Anesteziyoloji ve Reanimasyon Anabilim Dalı Başkanı

European Society of Anaesthesiology ESA

European Society of Anaesthesiology ESA

FROM: Prof. Stef De Hert, ESA President and Dr. Arash Afshari, ESA Guidelines Committee Chair
TO: Turkish Anesthesiology and Reanimation Society
TOPIC: request for translation of "Pre-operative evaluation of adults undergoing elective noncardiac surgery: Updated guideline from the European Society of Anaesthesiology. EJA June 2018 - Volume 35 - Issue 6 - p 407–465"

Brussels, Thursday, 27 December 2018

Dear Prof.Omer Kurtipek,
Dear Prof. Berrin Gunaydin,

Thank you for your interest in ESA Guidelines and for your translation request.

Following the discussion we had with the ESA guidelines Committee, ESA president and the EJA, we are pleased to confirm you that your translation request has been accepted.

Language of translation: Turkish

Purpose of translation: to publicize and share the most updated Preoperative Evaluation Guideline within our society members which would be helpful in improving their practice according to an evidence based information.

Format: Translation will be initially in online format both on TARS website and in official journal (www.jtaics.org - Turkish Journal of Anesthesiology and Reanimation).
At a second stage, TARS will make reprints to distribute them to whole society members (around 2500).

Agreements

- Translation will cite the original article/guidelines and clearly state that this is a Turkish translation of the original.
- It will be clearly mentioned that in case of citation of guidelines, it is the original guidelines that must be cited and not the translation.
- Turkish Anesthesiology and Reanimation Society takes responsibility for any translation errors and potential harm that may be caused through those.
- Turkish Anesthesiology and Reanimation Society will comply with "TA&RS Permission - EJA 2018.35.6.407-465" see document attached

Thanks again for submitting your request to ESA and EJA.
Yours sincerely,

Dr. Arash Afshari
Guidelines Committee Chair

Prof. Stefan De Hert
ESA President