Doi: 10.5152/TJAR.2019.150419

Turkish Journal of Anaesthesiology & Reanimation

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: Summary of the Updated Guideline From the European Society of Anaesthesiology

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This is a translation of the following guideline

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.

Eur J Anaesthesiol. 2019; 47(3): 244-72. doi: 10.1097/EJA.0000000000000817.

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 kılavuzunun orjinali 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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Kısaltmalar

6dkYT: 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 Molekül 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 (**G**rading 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

POBK: Postoperatif Bulantı ve Kusma

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 olmalı?		
1.1. Hastalar nasıl, ne zaman ve kim tarafından pre-operatif olarak değerlendirilmeli?	**2B**	16-19
• İyi tasarlanmış standardize anketlere dayanan pre-operatif bilgisayar tabanlı değerlendirme araçlarının mümkünse kullanılmasını öneririz; 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 öneririz.	**2C**	32
• Ameliyat öncesi değerlendirme bir hemşire veya başka bir hekim tarafından yapılabilir ama bir anestezi doktoru tarafından sonuçlandırılmalıdır.	**1C**	33, 34
1.2. Pre-operatif riskler hakkında hasta nasıl bilgilendirilmelidir?		
• Hastalar için çok önemli olduğundan, her pre-operatif konsültasyona bilgilendirmenin mutlaka dahil edilmesini öneririz.	**1B**	18, 36-49
• Hasta eğitiminde tercih edilen format olarak web üzerinden kolaylıkla uygulanabilecek multimedya sunumlarını öneririz.	**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 hastalar, bir anesteziyolog tarafından kardiyolojik değerlendirme ve medikal optimizasyon için sevk edilebilir.	**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 değerlendirmesi düşünülebilir.	**2B**	6
• Yüksek riskli hastalarda BNP ölçümü, peri-operatif ve geç dönem kardiyak olayları ortaya koymada bağımsız prognostik bir belirteç olarak düşünülebilir.	**2B**	6
• Peri-operatif dönemde beta bloker kullanımına devam edilmesine, bu tedaviyi alan hastalarda öneririz.	**1B**	66
• Yüksek riskli cerrahi öncesinde beta bloker başlanmasını, ≥2 ve daha fazla klinik risk faktörü olan veya ASA ≥3 hastalarda öneririz.	**2B**	6
• Bilinen iskemik kalp hastalığı veya miyokard iskemisi olan hastalarda pre-operatif beta-bloker başlanmasını öneririz.	**2B**	6
• Non-kardiyak cerrahiye girecek hastalarda oral beta bloker başlanacağı zaman ilk tercih olarak atenolol veya bisoprolol düşünülmesini öneririz.	**2B**	6
• Aspirin tedavisi alan hastaların tedavisine peri-operatif dönemde devam edilmesi düşünülebilir ve bu duruma peri-operatif kanama riskine karşı trombotik komplikasyon risk kıyaslaması yapılarak bireysel karar verilmesini öneririz.	**2B**	6
• Aspirin tedavisinin kesilmesini, cerrahi süresince hemostaz sağlanmasının zor olması beklenen hastalarda öneririz.	**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 grafisi rutin olarak önermiyoruz.	**1C**	78, 79, 81, 82
• OUAS hastaları olası zor havayolu riski taşıdıklarından dikkatli değerlendirilmelerini ve erken postoperatif dönemde de 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 öneririz.	**2B**	95, 96
• Pre-operatif inspiratuar kas egzersizi, postoperatif atelektazi, pnömoni ve hastanede kalış süresini azaltabilir.	**2A**	108
• Postoperatif pulmoner komplikasyonların önlenmesinde pre-operatif insentif spirometri önerilmez.	**2A**	110
• Malnütrisyonun düzeltilmesini öneririz.	**2C**	111
• Cerrahiden en az 4 hafta önce sigaranın bırakılması, postoperatif komplikasyonları azaltır.	**2A**	122, 123
• Postoperatif komplikasyonları azaltması açısından kısa süreli sigarayı bırakma (< 4 hafta) için yeterli kanıt yoktur.	**2A**	121
Böbrek hastalığı		
• Postoperatif ABH riski olan hastaları tespit etmek için bilinen faktörler (ileri yaş, obezite vs) göz önünde bulundurulmalı ve olası nefrotoksik ilaç uygulamaları, volüm durumu ve kan basıncı kontrolü ekstra dikkatle yönetilmelidir.	**2C**	142-144
• Postoperatif ABH riski olan hastaları tespit etmek için ek test sonuçları (BUN/Kr oranı, pre-operatif Hb düzeyi, peri-operatif Hb düşüklüğü) göz önünde bulundurulmalıdır.	**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 kullanılmalıdır.	**2B**	149-151
• Non-kardiyak cerrahi geçiren hastalarda pre-operatif statin tedavisi böbrek fonksiyonunun korunması ile ilişkilendirilmemelidir.	**2B**	152-153
Diabet		
• Bilinen diabetik hastalarda, bilinen veya şüpheli kardiyovaküler hastalığı olan hastaların kılavuzlardakine uygun şekilde yönetimini öneririz.	**2A**	7, 176, 192, 193
• Pre-operatif değerlendirmede rutin kan şekeri düzeyi ölçümü, majör ortopedik veya kardiyovasküler cerrahiye girecek hastalar dışında, elektif non-kardiyak cerrahi geçirecek sağlıklı bireyler için önermeyiz.	**2A**	173, 178
• Düzensiz glukoz regülasyonu riski yüksek olan hastalarda, peri-operatif glukoz kontrolüne özel dikkat gösterilmesini öneririz.	**1C**	166, 173
• Kan şekeri ve HbA1c testlerini, bilinen diabetes mellituslu hastalarda ve majör ortopedik ve vasküler cerrahi planlanan hastalarda öneririz.	**2A**	166, 175, 190
• Uzun süredir diabetik olan hastalarda dikkatli bir havayolu değerlendirmesi yapmalıdır.	**2C**	194
Obezite		
• Obez hastaların pre-operatif değerlendirmesi klinik değerlendirme, EKG, polisomnografi, STOP-BANG anketi ve/veya oksimetre içerir.	**2B**	103, 202, 209, 255-262
• Obez hastalarda patolojik glukoz/HbA1c ve aneminin saptanması için laboratuvar incelemesi yapılmalıdır.	**2C**	218, 220, 223
• Boyun çevresi ≥43 cm ve yüksek Mallampati skoru, obez hastalarda zor entübasyon için belirleyicidir.	**2C**	209
• Obez hastalarda hipoksik olayları azaltabileceğinden peri-operatif CPAP kullanımı öneririz.	**2C**	255, 264
Koagülasyon bozuklukları		
• Fizik muayene dahil, kanama öyküsünün değerlendirilmesi, hemostaz bozukluğu olan hastaların tanımlanması ve/veya cerrahi sırasında ve sonrasında artan kanama komplikasyonları için halen en iyi yöntem kabul edilmektedir.	**1B**	268
• Ayrıntılı öykü alınmasına ek olarak, koagülasyon bozukluklarının tanımlanmasında laboratuvar parametreleri kullanılabilir.	**2C**	269, 270
• Trombosit sayısı gibi basit bir laboratuvar testi, prognostik değere sahiptir ve değerlendirmede kullanılabilir.	**2A**	272, 273
• Katarakt cerrahisi, topikal anestezinin kullanılması ve 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 öyküsü ile ne de PFA-100'deki bulgularla peri-operatif kanama öngörülebilir. Aspirin alan hastaların ameliyatı güvenlidir ve ameliyattan 3 gün önce klopidogrel tedavisinin kesilmesi majör kanamayı önlemek için yeterlidir.	**2B**	269-271
• Kalça kırıklı hastalarda cerrahi, peri-operatif dönemde klopidogrel kesilmeksizin güvenli bir şekilde yapılabilir.	**1B**	278, 279
• Varfarin ilişkili koagülopatinin tersine çevrilmesi gereklidir, öncelikle TKK kullanımalıdır, eğer TKK yoksa K vitamini ve TDP kombinasyonu bir seçenek olabilir.	**2C**	282, 283
• Klopidogrel, spesifik hasta gruplarında kesilebilir ancak bazı riskleri vardır ve bireyselleştirilmiş, kanıtlanmış bir yaklaşım gerekmektedir.	**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 uygulanması öneririz.	**2B**	293-295
• En iyi sonuçlar için peri-operatif anemi yönetiminde intravenöz demirin eritropoezi uyaran ajanlarla birlikte kullanılması 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 kanamayı önlemek için traneksamik asit kullanılmasını öneririz.	**1C**	304
• Tahmini kan kaybının yüksek olduğu beklenen bütün ortopedik girişimlerde hücre kurtarma yöntemi kullanılmasını öneririz.	**2B**	295, 305
• Pre-operatif otolog kan bağışı (veya akut normovolemik hemodilüsyon) gibi önlemlerin dikkate alınmasını ve hastanın ihtiyacı ile cerrahi tipinin baz alınmasını öneririz.	**2C**	306, 308
Geriatrik hasta		
• Geriatrik hastada fonksiyonel kapasite bozulabilir ve fonksiyonel sonucu öngörmeyi sağlar. Tercihen kapsamlı bir geriatrik muayene ile fonksiyonel kapasiteyi değerlendirmeyi, risk altındaki hastaları belirleme ve/veya komplikasyonları öngörme amacıyla 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
• Komorbiditeler ve multimorbidite yaşlanma ile artar ve artmış 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. İlaçları, Beers kriteri ile yapılandırılmış şekilde değerlendirmeyi öneririz.	**1B**	316, 317, 319, 343
• Kognitif (bilişsel) bozulma sık görülür ve genellikle eksik değerlendirilir. Kognitif bozukluk anlama yetisini etkileyebilir, bu da aydınlatılmış onay formunun hastadan 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 indirmenizi öneririz.	**1B**	25, 312, 314

• Malnütrisyon sık görülür ve genellikle eksik değerlendirilir ve komplikasyonların oluşması 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. Düşkünlük; Fried Skorlaması veya Edmonton Düşkünlük Ölçeği gibi yapılandırılmış, multimodal bir yolla değerlendirilmeli ve tek sefer yapılan ölçümlerden kaçınılmasını öneririz.	**1B**	22, 23, 311, 312, 314, 337, 339, 345-360
Alkol ve uyuşturucu suistimali ve bağımlılığı		
• Pre-operatif AKB tanısında standart CAGE anketi ile GGT ve CDT gibi laboratuvar testlerinin kombine kullanımı, tek başına laboratuvar testi veya tek başına anket kullanılmasından daha üstündür.	**1B**	376
• Pre-operatif AKB tanısında, sadece en yüksek sensitiviteye sahip GGT ve CDT gibi biyobelirteçlerin kullanımını öneririz.	**1C**	371
• AKB ve YMK olan hastaları belirlenmesinde, bir anestezi uzmanının yaptığı görüşmeden daha üstün sayılan bilgisayar ortamında hastanın kendisinin uyguladığı anketin kullanılmasını öneririz.	**1C**	370, 374
• Pre-operatif AKB'nin saptanmasında AUDIT-C ve AUDIT skorlarının birbiri yerine kullanılmamasını öneririz.	**1C**	370
• NIAAA-4Q, AKB'leri belirlemek için pre-operatif olarak kullanılabileceğini öneririz.	**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
• İdrarda kokain testinin pozitif çıkması intraoperatif olumsuz hemodinamik değişikliklerle ile ilişkili değildir. Bu hastaları değerlendirirken klinik belirtilerin göz önünde bulundurulmasını öneririz.	**2C**	377, 378
Nöromüsküler hastalık		
• Erken pre-operatif konsültasyonu, şiddetli, kontrolsüz ya da dekompanse nörolojik hastalığı olan, yakın zamanlı bir inme veya yüksek nörolojik komplikasyon riski taşıyan girişimleri geçirecek hastalar için öneririz.	**2B**	381
• VK ve FVK dahil olmak üzere pulmoner fonksiyon değerlendirmesini öneririz. Kardiyak fonksiyon değerlendirmesi ve olası kardiyomiyopatinin derecesini ölçmek için EKG çekilmesini ve TTE yapılmasını öneririz.	**2B**	384
• Hasta sonuçlarını iyileştirebileceği için pre-operatif optimizasyon ve/veya tedavi öneririz.	**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 öneririz.	**2B**	391
• Bitkisel ilaçların ameliyattan 2 hafta önce kesilmesini öneririz.	**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 öneririz.	**2B**	391
Psikotropik ilaçlar		
• Kronik trisiklik antidepresan (TAD) tedavisi alan hastalara, anestezi öncesinde kapsamlı bir kardiyak değerlendirme yapılmasını öneririz.	**2B**	404, 408
• Kronik depresyonlu hastalarda antidepresan tedavi 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 ilaç geri dönüşümlü MAOİ ile değiştirilmelidir.	**1C**	409
• Peri-operatif olarak kronik şizofreni hastalarında antipsikotik ilaç tedavisine devam edilmesini öneririz.	**2B**	408
• Lityumun, ameliyattan 72 saat önce kesilmesini öneririz.		

• Hastanın elektrolitleri normal sınırlardaysa, hemodinamik olarak stabilse ve yemek yiyip içebiliyorsa yeniden başlanabilir. Lityumun kan seviyeleri 1 hafta içinde kontrol edilmelidir.	**2B**	408
• Lokal anestezi altında minör cerrahi geçirecek hastalarda lityum tedavisine devam edilmesini öneririz.	**2C**	408
• Bitkisel ilaçların ameliyattan 2 hafta önce kesilmesini öneririz.	**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 öneririz.	**2C**	397
• Katarakt veya minör yumuşak doku cerrahisi gibi küçük cerrahi işlemlerde "köprüleme" tedavisi yerine VKA'ya devam edilmesini öneririz.	**1B**	397
• *Pacemaker* ve defibrilatör cihazlarının implantasyonunda, DMAH ile "köprüleme" tedavisini başlatmak 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. *Hangi 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 mümkün olursa yapılmalıdır. Tarama; tıbbi durumlar, operasyonlar, zor havayolu yönetimi öyküsü ve önceki anestezi kayıtlarının incelenmesini içerir.		
• Tarama, hastanın çizelgesinde belgelenmelidir.	**1A**	458
• Zor havayolu yönetimi için tek bir prediktif işaret kendi başına yeterli değildir ve pre-anestezik değerlendirmede, farklı onaylanmış değerlendirme kriterlerinin kombinasyonunu gerektirir.	**1A**	467, 470, 475
• Uyanık hastalarda Mallampati testi onaylanmışsa da, doğrudan laringoskopiyle glottik görünüm arasındaki ilişki çok sınırlıdır.	**2B**	464, 465
• Tek başına Mallampati sınıflandırılmasının, laringoskopik görünümü kesin olarak tahmin edilmesinde 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 en az 57 yaş.	**1C**	458-460
• Olası imkansız maske ventilasyonu değerlendirilmesini ve aşağıdaki faktörlerden üç veya daha fazlasının varlığına dayandırılmasını öneririz: 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 eşiği: 4,5 cm) ile kombinasyonu, zor entübasyon için kolay uygulanabilen ve güvenilir bir prediktör olduğu için öneririz.	**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 öneririz. Boyun çevresinin 45 cm'den fazla olması başka bir uyarı işaretidir.	**2C**	480
• Zor videolaringoskopi kolay öngörülemez. Çünkü şimdiye kadar sadece birkaç çalışmada bu soru ele alınmıştır.	**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 riskini değerlendirilmesinde ASA-FS (Fizik Sınıfı) 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 öneririz.	**2C**	517-522
• Postoperatif komplikasyon ve OUAS riskini değerlendirmek için STOP BANG anketinin kullanılmasını öneririz.	**1C**	103-106
Biyobelirteçler		
• Pre-operatif hsTnT ölçümünü, koroner arter hastalığı riski olan ve majör cerrahi geçirecek hastalarda öneririz.	**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 öneririz.	**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 yaklaşımı 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 ge-

reken, 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 güçte 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 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: 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

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

Finansal destek ve sponsorluk: Avrupa Anesteziyoloji Derneği.

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