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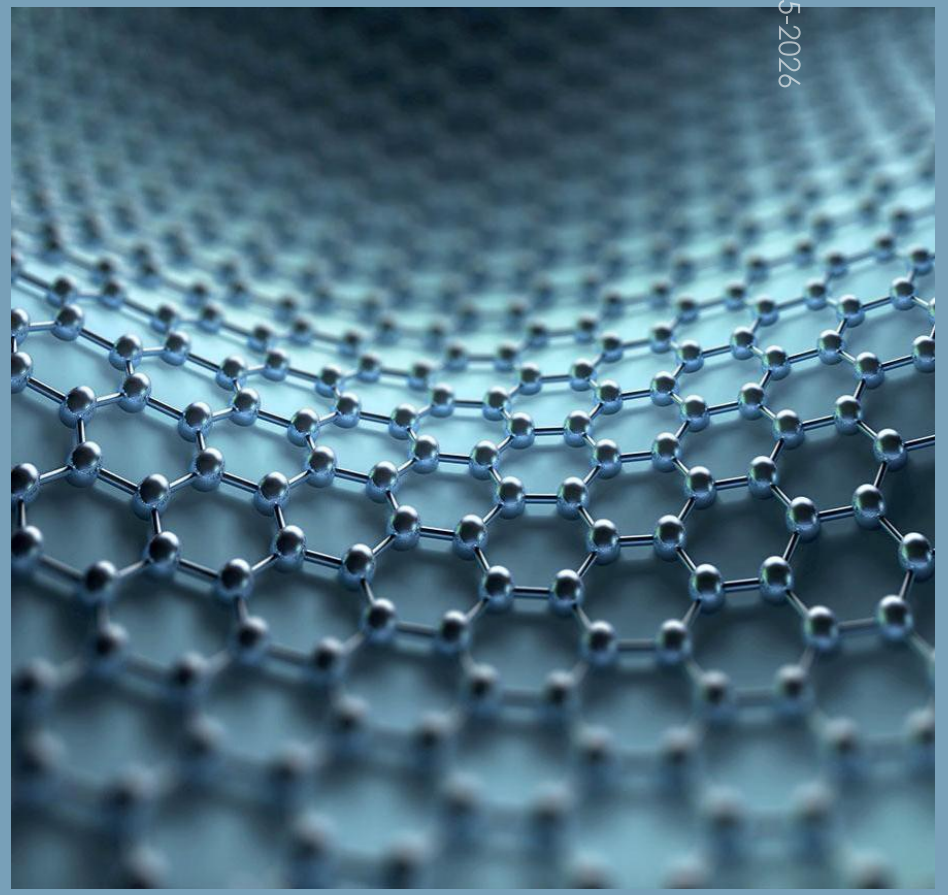
Conflict of Interest Statement

- I have no actual or potential conflict of interest in relation to this presentation



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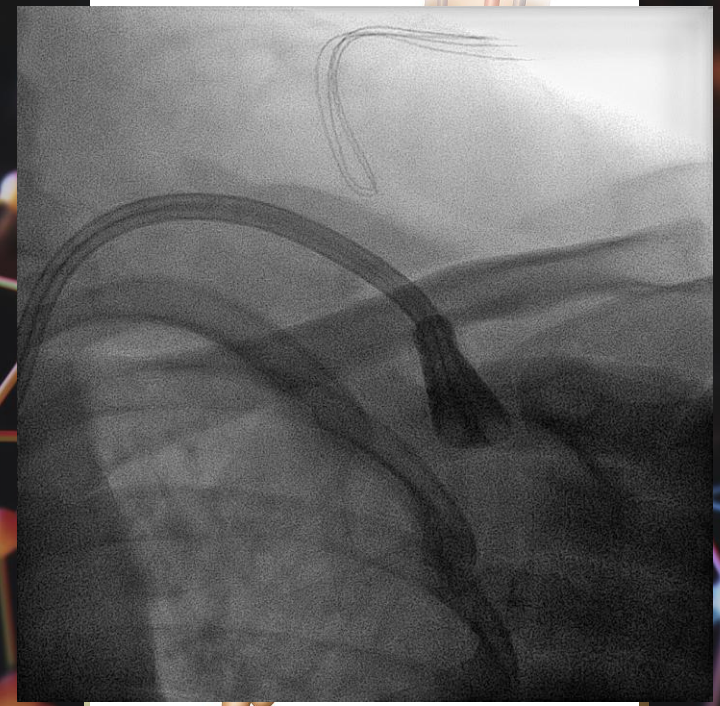

The ESKD Life-Plan_ KDOQI 2019

Lok CE, Huber TS, Lee T, Shenoy S, Yevzlin AS, Abreo K, Allon M, Asif A, Astor BC, Glickman MH, Graham J, Moist LM, Rajan DK, Roberts C, Vachharajani TJ, Valentini RP; National Kidney Foundation. KDOQI Clinical Practice Guideline for Vascular Access: 2019 Update. Am J Kidney Dis. 2020 Apr;75(4 Suppl 2):S1-S164. doi: 10.1053/j.ajkd.2019.12.001. Epub 2020 Mar 12.

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Introduction

Approximately 260,000 Americans suffer from end-stage renal disease (ESRD), of whom 59% are treated by maintenance hemodialysis.[3] Despite a longer life expectancy for the general population of the United States in comparison to that of

*of Hemodialysis** describes acceptable methods for measuring hemodialysis adequacy and defines a minimum delivered dose of hemodialysis for adults (>18 years old) with ESRD who have negligible residual renal function and are receiving outpatient hemodialysis three times per week

Subgroup	Early Start	Late Start	Hazard Ratio (95% CI)	P Value for Interaction
	no. of deaths/no. of patients (%)			
GFR C–G				0.74
<12.5 ml/min/1.73 m²	56/139 (40)	56/137 (41)		
≥12.5 ml/min/1.73 m²	96/265 (36)	99/287 (34)		
GFR MDRD				0.58
<9.5 ml/min/1.73 m²	58/195 (30)	57/203 (28)		
≥9.5 ml/min/1.73 m²	94/209 (45)	98/221 (44)		
Age				0.26
<60 yr	39/180 (22)	38/194 (20)		
≥60 yr	113/224 (50)	117/230 (51)		
Sex				0.28
Female	55/143 (38)	58/143 (41)		
Male	97/261 (37)	97/281 (35)		
Diabetes				0.63
No	65/232 (28)	63/241 (26)		
Yes	87/172 (51)	92/183 (50)		
Body-mass index				0.59
<25.0	40/102 (39)	46/126 (37)		
25.0–29.9	53/143 (37)	52/146 (36)		
≥30.0	59/159 (37)	57/152 (38)		
Baseline history of cardiovascular disease				0.47
No	64/244 (26)	69/262 (26)		
Yes	88/160 (55)	86/162 (53)		
Albumin				0.67
<35 g/liter	38/68 (56)	44/81 (54)		
≥35 g/liter	110/325 (34)	109/336 (32)		

information in Appendix A.

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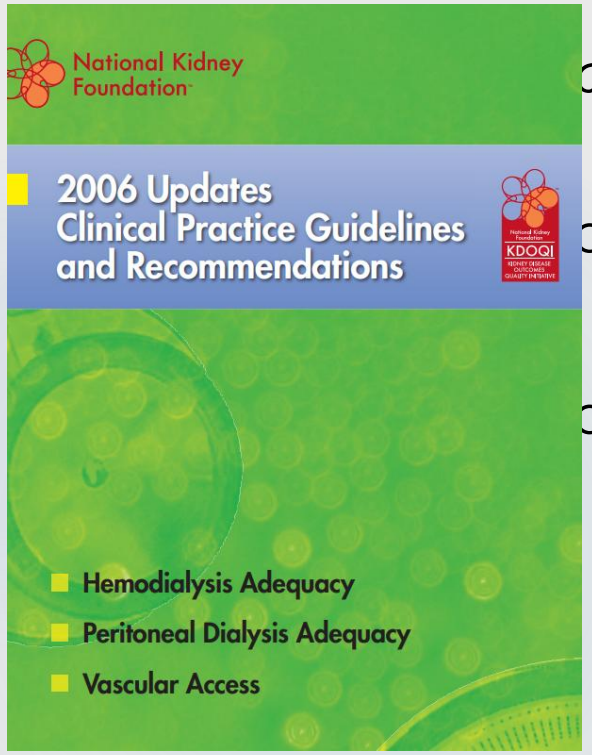

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Show Outline

Guideline 8: Timing of access placement

1. Patients with chronic kidney disease should be referred for surgery to attempt construction of a primary AV fistula when their creatinine clearance is <25 mL/min, their serum creatinine level is >4 mg/dL, or within 1 year of an anticipated need for dialysis. The patient should be referred to a nephrologist prior to the need for access to facilitate kidney failure treatment and for counseling about modes of ESRD care, including hemodialysis, peritoneal dialysis, and renal transplantation. (**Opinion**)
2. A new primary fistula should be allowed to mature for at least 1 month, and ideally for 3 to 4 months, prior to cannulation. (**Opinion**)
3. Dialysis AV grafts should be placed at least 3 to 6 weeks prior to an anticipated need for hemodialysis in patients who are not candidates for primary AV fistulae. (**Opinion**)
4. Hemodialysis catheters should not be inserted until hemodialysis is needed. (**Evidence/Opinion**)

Rationale Both the size and anatomical qualities of venous and arterial components of primary AV fistulae can influence the fistulae maturation time. An aggressive policy of primary AV fistulae creation may result in failures in patients with marginal anatomy. However, timely attempts to create primary AV fistulae before the anticipated need for dialysis will allow adequate time for the fistulae to mature, and will allow sufficient time to perform another vascular access procedure if the first attempt fails, thus avoiding the need for temporary access. Early referral of the patient with chronic kidney disease to a nephrologist is needed to facilitate kidney failure therapy with medications and diets that preserve kidney function. In addition, counseling patients on ESRD treatment options is essential to plan for ideal access (ie, peritoneal, and hemodialysis access).

The Work Group's consensus is that maturation of an AV graft access site—defined as reduction of surgically induced swelling and the graft's adherence to its tunnel tissue—usually requires about 3 weeks. Thus, ideally, AV grafts should be placed 3 to 6 weeks prior to use.

Cuffed and noncuffed catheters are acceptable for short-term (<3 weeks) use. Tunneled cuffed catheters are the method of choice for temporary access of greater than 3 weeks' duration.

Catheters are suitable for immediate use. To maximize their use-life, they should not be inserted until needed.

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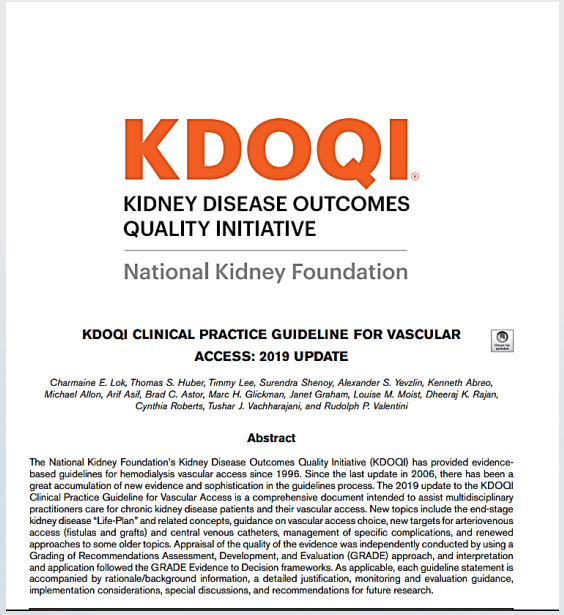

KDOQI

KIDNEY DISEASE OUTCOMES QUALITY INITIATIVE

National Kidney Foundation

KDOQI CLINICAL PRACTICE GUIDELINE FOR VASCULAR ACCESS: 2019 UPDATE

Charmaine E. Lok, Thomas S. Huber, Timmy Lee, Surendra Shenoy, Alexander S. Yevzlin, Kenneth Abreo, Michael Allon, Arif Asif, Brad C. Astor, Marc H. Glickman, Janet Graham, Louise M. Moist, Dheeraj K. Rajan, Cynthia Roberts, Tushar J. Vachharajani, and Rudolph P. Valentini

Abstract

The National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) has provided evidence-based guidelines for hemodialysis vascular access since 1996. Since the last update in 2006, there has been a great accumulation of new evidence and sophistication in the guidelines process. The 2019 update to the KDOQI Clinical Practice Guideline for Vascular Access is a comprehensive document intended to assist multidisciplinary practitioners care for chronic kidney disease patients and their vascular access. New topics include the end-stage kidney disease "Life-Plan" and related concepts, guidance on vascular access choice, new targets for arteriovenous access (fistulas and grafts) and central venous catheters, management of specific complications, and renewed approaches to some older topics. Appraisal of the quality of the evidence was independently conducted by using a Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach, and interpretation and application followed the GRADE Evidence to Decision frameworks. As applicable, each guideline statement is accompanied by rationale/background information, a detailed justification, monitoring and evaluation guidance, implementation considerations, special discussions, and recommendations for future research.

Guideline 1. Patient First: ESKD Life-Plan

Statements: ESKD Life-Plan and Vascular Access Choice

1.1 **KDOQI considers it reasonable that each patient with progressive CKD and/or with an eGFR 15-20 mL/min/1.73 m^2 or already on kidney replacement therapy should have an individualized ESKD Life-Plan that is regularly reviewed, updated, and documented on their medical record.** ***(Expert Opinion)***

1.2 **KDOQI considers it reasonable to conduct an annual review and update of each patient's individualized ESKD Life-Plan, together with their health care team.** ***(Expert Opinion)***

1.3 **KDOQI considers it reasonable that, in addition to regular monitoring, a minimum quarterly overall review and update of each patient's vascular access functionality, complication risks, and potential future dialysis access options be done together with their health care team.** ***(Expert Opinion)***

Guideline 2. Vascular Access Types

2.5 **KDOQI suggests that if sufficient time and patient circumstances are favorable for a mature, usable AVF, such a functioning AVF is preferred to an AVG in incident HD patients due to fewer long-term vascular access events (eg, thrombosis, loss of primary patency, interventions) associated with unassisted AVF use.** ***(Conditional Recommendation, Low Quality of Evidence)***

Note: Patient circumstances refer to vessel characteristics, patient comorbidities, health circumstances, and patient preference.

Note: Unassisted AVF use refers to an AVF that matures and is used without the need for endovascular or surgical interventions, such as angioplasty. A preplanned vessel superficialization is acceptable and not considered an additional intervention.

2.6 **KDOQI suggests that most incident HD patients starting dialysis with a CVC should convert to either an AVF or AVG, if possible, to reduce their risk of infection/bacteremia, infection-related hospitalizations, and adverse consequences.** ***(Conditional Recommendation, Very Low–Moderate Quality of Evidence)***

2.7 **There is inadequate evidence for KDOQI to make recommendations on choice of incident vascular access type based on associations with all-cause hospitalizations or mortality.**

2.8 **There is inadequate evidence for KDOQI to make a recommendation on choice of AVF vs AVG for incident vascular access based on associations with infections, all-cause hospitalizations, or patient mortality.**

2.9 **There is inadequate evidence for KDOQI to make a recommendation for incident HD patients using a CVC on converting to an AV access (AVF or AVG) within the first year of dialysis initiation, solely to reduce their risk of mortality.**

2.10 **KDOQI considers it reasonable to use tunneled CVC in preference to nontunneled CVC due to the lower infection risk with tunneled CVC.** ***(Expert Opinion)***

2.11 **KDOQI considers it reasonable to use nontunneled internal jugular CVC only for temporary purposes for a limited time period (<2 weeks or per individual facility policy) to limit infection risk.** ***(Expert Opinion)***

Statements: Vascular Access in Prevalent HD Patients

2.12 **There is inadequate evidence for KDOQI to make a recommendation on the type of vascular access preferred in prevalent HD patients based on vascular access outcomes, patient hospitalizations, or mortality.**

2.13 **KDOQI considers it reasonable that prevalent HD patients use an AV access (AVF or AVG) in preference to a CVC, if possible, due to the association with lower vascular access–related events (eg, infection, thrombotic, and nonthrombotic complications).** ***(Expert Opinion)***

2.14 **KDOQI considers it reasonable that if clinical circumstances are favorable for a mature, usable AVF, such a functioning AVF is preferred to AVG in prevalent HD patients.** ***(Expert Opinion)***

Note: Clinical circumstances refer to patient's vessel characteristics, comorbidities, health circumstances, potential exposure time to CVC use, and patient preference.

2.15 **KDOQI considers it reasonable in valid clinical circumstances to use tunneled CVCs for short-term or long-term durations for prevalent patients, as follows** ***(Expert Opinion)*****:**

Short-term duration:

- **AVF or AVG created but not ready for use and dialysis is required**
- **Acute transplant rejection or other complications requiring dialysis**
- **PD patient with complications that require time-limited peritoneal rest or resolution of complication (eg, pleural leak)**
- **Patient has a living donor transplant confirmed with an operation date in the near future (eg, <90 days) but requires dialysis**
- **AVF or AVG complication such as major infiltration injury or cellulitis that results in temporary nonuse until problem is resolved**

Note: In special, limited circumstances where temporary CVC is required to manage a vascular access complication (eg, <2 weeks), it may be acceptable to use a nontunneled CVC.

Long-term or indefinite duration:

- **Multiple prior failed AV accesses with no available options (see anatomic restrictions below)**
- **Valid patient preference whereby use of an AV access would severely limit QOL or achievement of life goals and after the patient has been properly informed of patient-specific risks and benefits of other potential and reasonable access options for that patient (if available)**
- **Limited life expectancy**
- **Absence of AV access creation options due to a combination of inflow artery and outflow vein problems (eg, severe arterial occlusive disease, noncorrectable central venous outflow occlusion) or in infants/children with prohibitively diminutive vessels**
- **Special medical circumstances**

"Δεν υπάρχουν επαρκή δεδομένα ώστε οι οδηγίες KDOQI να διατυπώσουν σύσταση σχετικά με τον προτιμώμενο τύπο αγγειακής προσπέλασης σε (prevalent) ασθενείς υπό χρόνια αιμοκάθαρση, βάσει των εκβάσεων της αγγειακής προσπέλασης, των νοσηλειών ή της θνητότητας των ασθενών"

"Τεκμηριωμένη προτίμηση του ασθενούς, σύμφωνα με την οποία η χρήση αρτηριοφλεβικής αγγειακής προσπέλασης θα περιόριζε σημαντικά την ποιότητα ζωής ή την επίτευξη των στόχων ζωής του, κατόπιν πλήρους ενημέρωσης σχετικά με τους εξατομικευμένους κινδύνους και τα οφέλη άλλων δυνητικών και εύλογων επιλογών αγγειακής προσπέλασης για τον συγκεκριμένο ασθενή (εφόσον διατίθενται)"

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Access at Initiation

75 ετών

Estimated Risk of Death on Hemodialysis at 6 months **3.4%**

United States Renal Data System. *2025 USRDS Annual Data Report: Epidemiology of Kidney Disease in the United States*. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health; 2025

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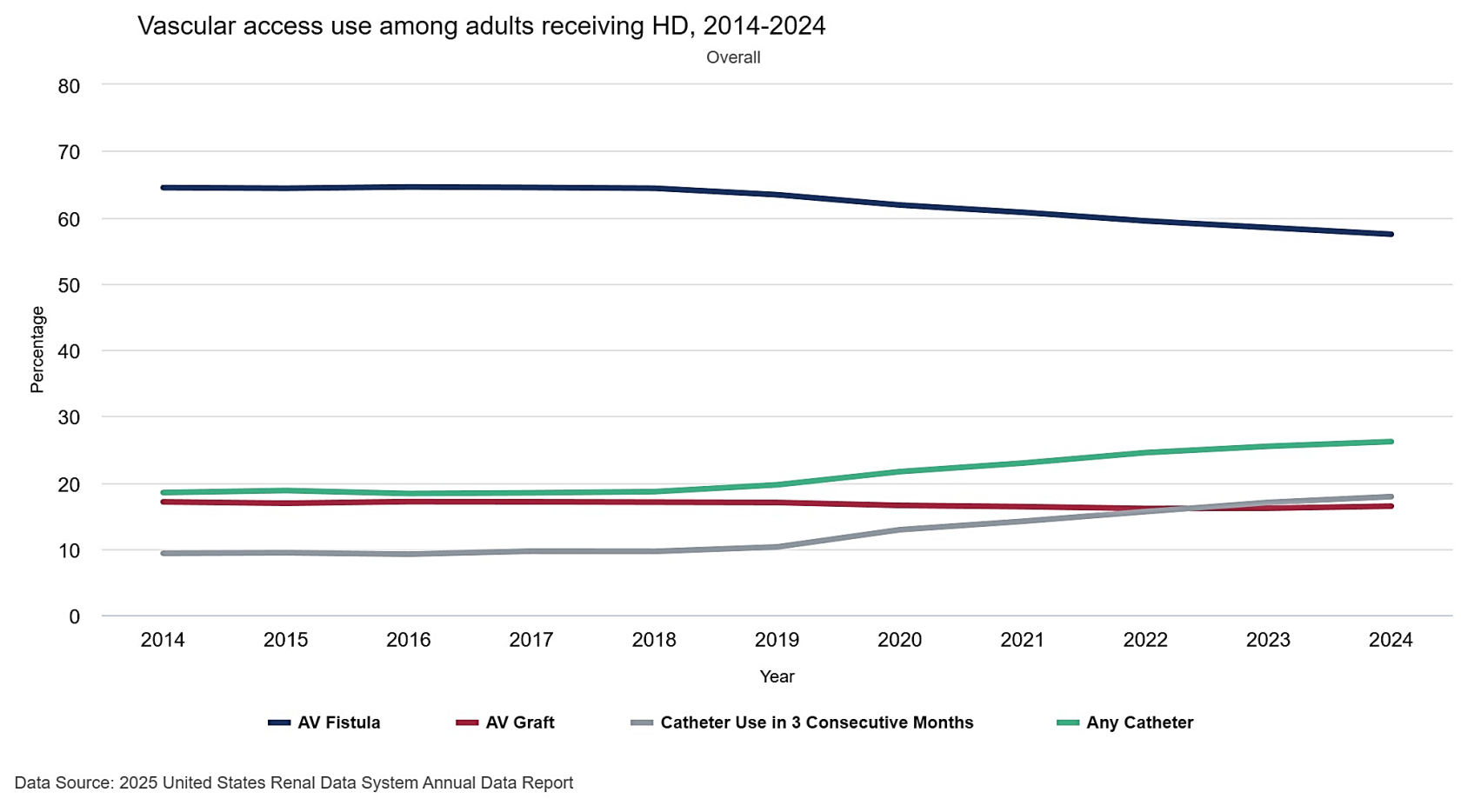
Εξέλιξη _ 2019-2025



United States Renal Data System. *2025 USRDS Annual Data Report: Epidemiology of Kidney Disease in the United States*. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health; 2025

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Highligts_2025

Τάσεις στη χρήση καθετήρων

•Το ποσοστό των ασθενών που ξεκινούσαν αιμοκάθαρση με καθετήρα κορυφώθηκε στο 85.4% το 2021 και στη συνέχεια μειώθηκε στο 79.9% το 2024

•Συνολικά, το ποσοστό των χρόνιων ασθενών σε αιμοκάθαρση που χρησιμοποιούσαν καθετήρα αυξήθηκε σε περισσότερο από 25% το 2024, ενώ η χρήση fistula μειώθηκε σε κάτω από 60%

Εκβάσεις fistula

•Στους ασθενείς που ξεκίνησαν αιμοκάθαρση με fistula, η αποτυχία λειτουργίας της προσπέλασης (εγκατάλειψη της προσπέλασης) εντός του πρώτου έτους μειώθηκε κατά περίπου δύο τρίτα μεταξύ 2012 και 2022

•Δεκαοκτώ μήνες μετά την έναρξη αιμοκάθαρσης με fistula, το 78.1% των ασθενών παρέμεναν σε αιμοκάθαρση και σχεδόν το 95% εξ αυτών χρησιμοποιούσαν μόνιμη αγγειακή προσπέλαση (fistula ή graft)

United States Renal Data System. *2025 USRDS Annual Data Report: Epidemiology of Kidney Disease in the United States*. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health; 2025

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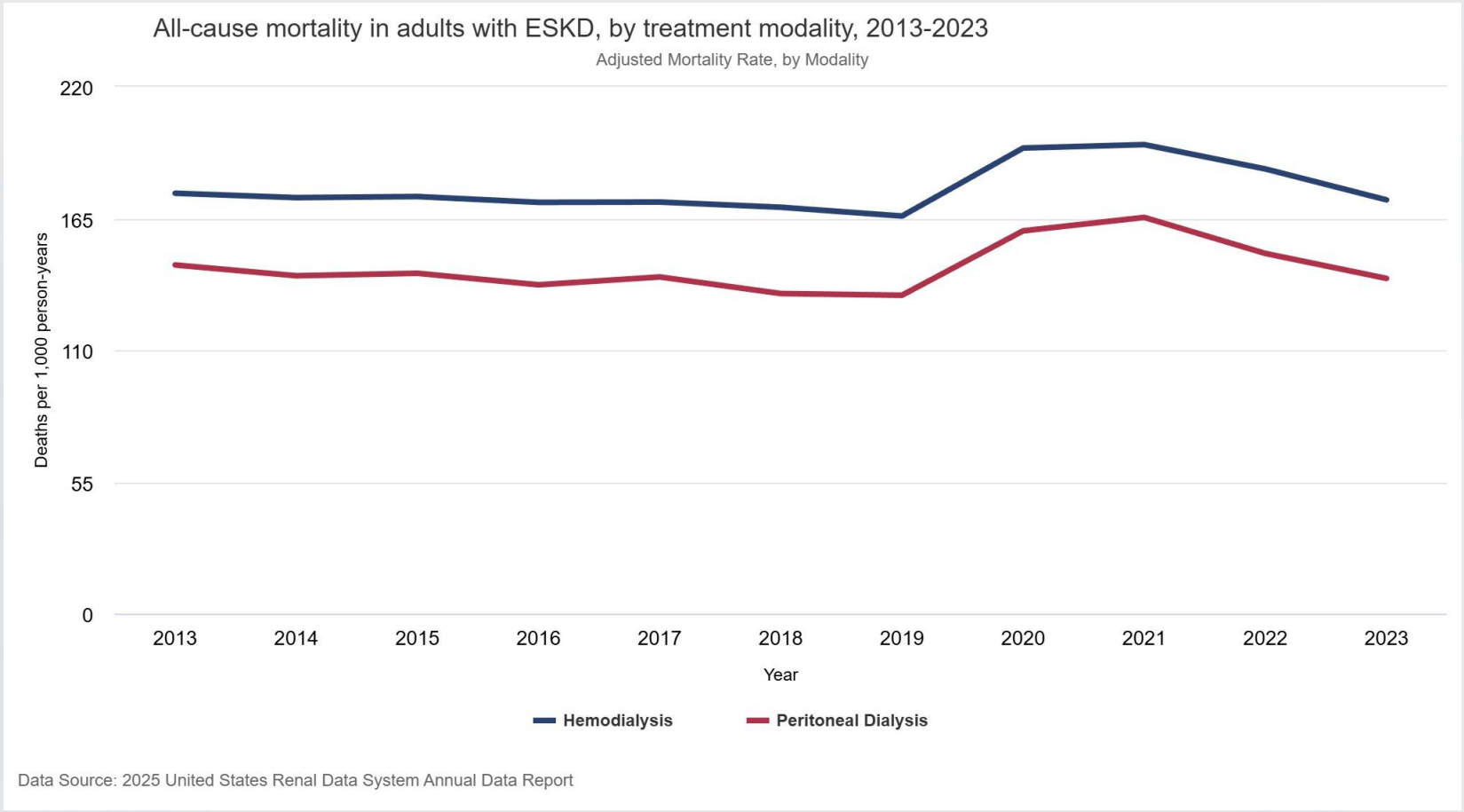
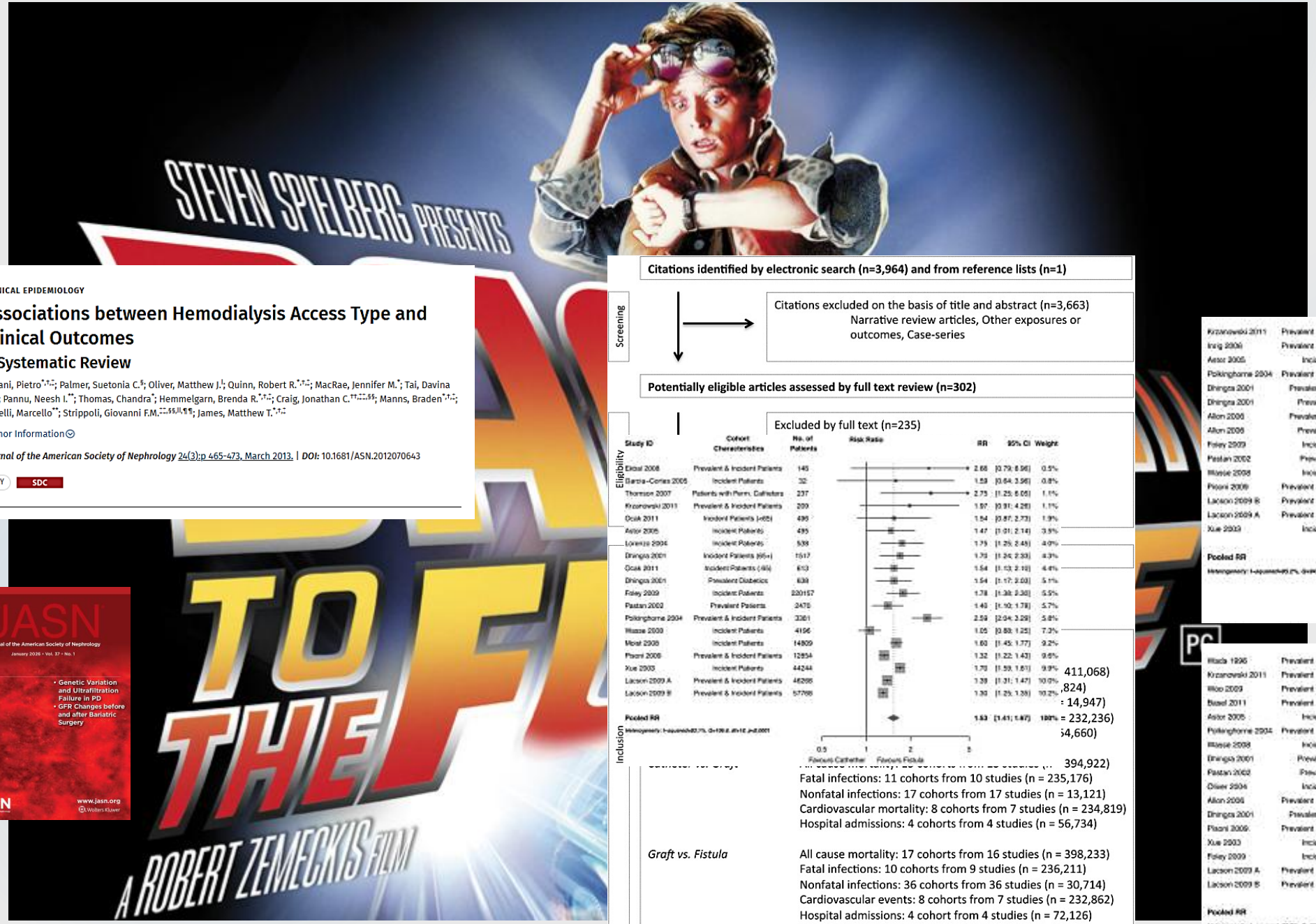
Hard Outcomes _ 2019-2025



United States Renal Data System. *2025 USRDS Annual Data Report: Epidemiology of Kidney Disease in the United States*. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health; 2025



CLINICAL EPIDEMIOLOGY

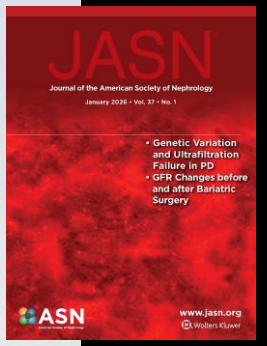
Associations between Hemodialysis Access Type and Clinical Outcomes

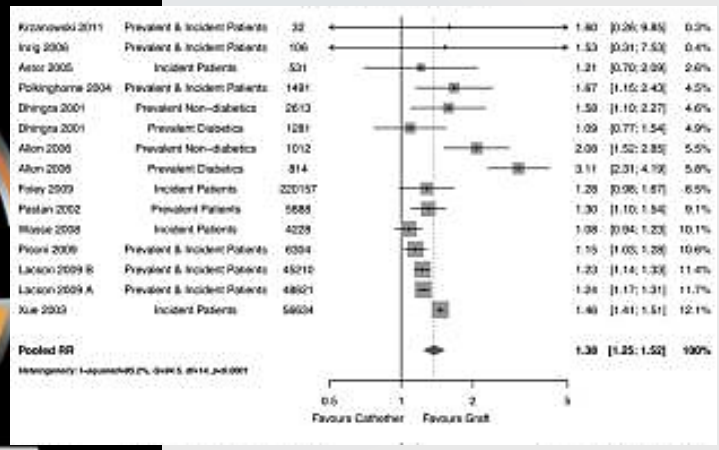
A Systematic Review

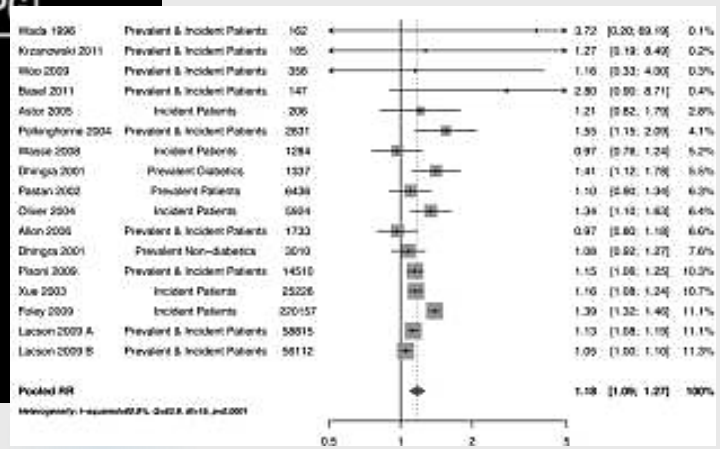
Ravani, Pietro[*,†,‡]; Palmer, Suetonia C.[§]; Oliver, Matthew J.[‖]; Quinn, Robert R.[*,†,‡]; MacRae, Jennifer M.[*]; Tai, Davina J.[*,¶]; Pannu, Neesh I.[**]; Thomas, Chandra[*]; Hemmelgarn, Brenda R.[*,†,‡]; Craig, Jonathan C.[††,‡‡,§§]; Manns, Braden[*,†,‡]; Tonelli, Marcello[**]; Strippoli, Giovanni F.M.[‡‡,§§,‖‖,¶¶]; James, Matthew T.[*,†,‡]

Author Information

Journal of the American Society of Nephrology 24(3):p 465-473, March 2013. | *DOI:* 10.1681/ASN.2012070643







The Plan- KDOQI 2019

Real World Data

CLINICAL EPIDEMIOLOGY

Associations between Hemodialysis Access Type and Clinical Outcomes

A Systematic Review

Ravani, Pietro*,†,‡; Palmer, Suetonia C.§; Oliver, Matthew J.‖; Quinn, Robert R.*,†,‡; MacRae, Jennifer M.*; Tai, Davina J.*,¶; Pannu, Neesh I.**; Thomas, Chandra*; Hemmelgarn, Brenda R.*,†,‡; Craig, Jonathan C.††,‡‡,§§; Manns, Braden*,†,‡; Tonelli, Marcello**; Strippoli, Giovanni F.M.‡‡,§§,‖‖,¶¶; James, Matthew T.*,†,‡

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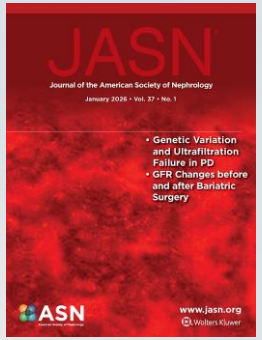

Reference Annual Event Risk[a]	Vascular Access Comparison	Meta-Analytical RR (95% CI)	Heterogeneity (I^2; *P* Value)	Number of Additional Events per 1000 Patients Exposed per Year (95% CI)
All-cause mortality				
0.20 for fistula users	Catheter versus fistula	1.51 (1.40–1.63)	83%; <0.01	106 (80–134) excess with catheter
0.24 for graft users	Catheter versus graft	1.38 (1.25–1.52)	86%; <0.01	91 (60–125) excess with catheter
0.20 for fistula users	Graft versus fistula	1.18 (1.09–1.27)	82%; <0.01	36 (18–54) excess with graft
Major cardiovascular events				
0.10 for fistula users	Catheter versus fistula	1.38 (1.24–1.54)	0%; 0.47	38 (24–54) excess with catheter
0.11 for graft users	Catheter versus graft	1.26 (1.11–1.43)	0%; 0.57	28 (12–46) excess with catheter
0.10 for fistula users	Graft versus fistula	1.07 (0.95–1.21)	0%; 0.52	7 (−5–21)[b] excess with graft
Fatal infections				
0.03 for fistula users	Catheter versus fistula	2.12 (1.79–2.52)	0%; 0.82	28 (20–38) excess with catheter
0.04 for graft users	Catheter versus graft	1.49 (1.15–1.93)	0%; 0.23	17 (5–32) excess with catheter
0.03 for fistula users	Graft versus fistula	1.36 (1.17–1.58)	0%; 0.78	9 (4–15) excess with graft

"Συνοψίζοντας, αρκετές σημαντικές κλινικές εκβάσεις σχετίζονται με τον τύπο της αγγειακής προσπέλασης που χρησιμοποιείται για αιμοκάθαρση. Οι ισχυρότερες συσχετίσεις με ανεπιθύμητα συμβάματα παρατηρούνται σε ασθενείς με καθετήρες, ενώ ο χαμηλότερος κίνδυνος παρατηρείται σε ασθενείς με fistula."

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Real World Data

CJASN
Clinical Journal of the American Society of Nephrology

Vascular Access Morbidity and Mortality. Trends of the Last Decade

Lok, Charmaine E.*; Foley, Robert†

Clinical Journal of the American Society of Nephrology 8(7):p 1213-1219, July **2013**.
DOI: 10.2215/CJN.01690213

Abstract

Summary
During the past decade, clear trends in the types of incident and prevalent hemodialysis vascular access can be observed. There has been a steady increase and recent stabilizaton of patients initiating hemodialysis with a central venous catheter, representing approximately 80% of all incident accesses. There has also been a steady increase in prevalent fistula use, currently greater than 50% within 4 months of hemodialysis initiation. Patient and vascular access related morbidity and mortality are reflected in the type of vascular access used at initiation and for long-term maintenance dialysis. There is a three- to fourfold increase in risk of infectious complications in patients initiating dialysis with a catheter compared with either a fistula or graft and a sevenfold higher risk when the catheter is used as a prevalent access. Procedure rates have increased two- to threefold for all types of access. There is a significant increased risk of mortality associated with catheter use, especially within the first year of dialysis initiation.

"Παρατηρείται τριπλάσια έως τετραπλάσια αύξηση του κινδύνου λοιμωδών επιπλοκών σε ασθενείς που ξεκινούν αιμοκάθαρση με καθετήρα, συγκριτικά με ασθενείς με αρτηριοφλεβική fistula ή μόσχευμα, ενώ ο κίνδυνος είναι επταπλάσιος όταν ο καθετήρας χρησιμοποιείται ως μόνιμη αγγειακή προσπέλαση"

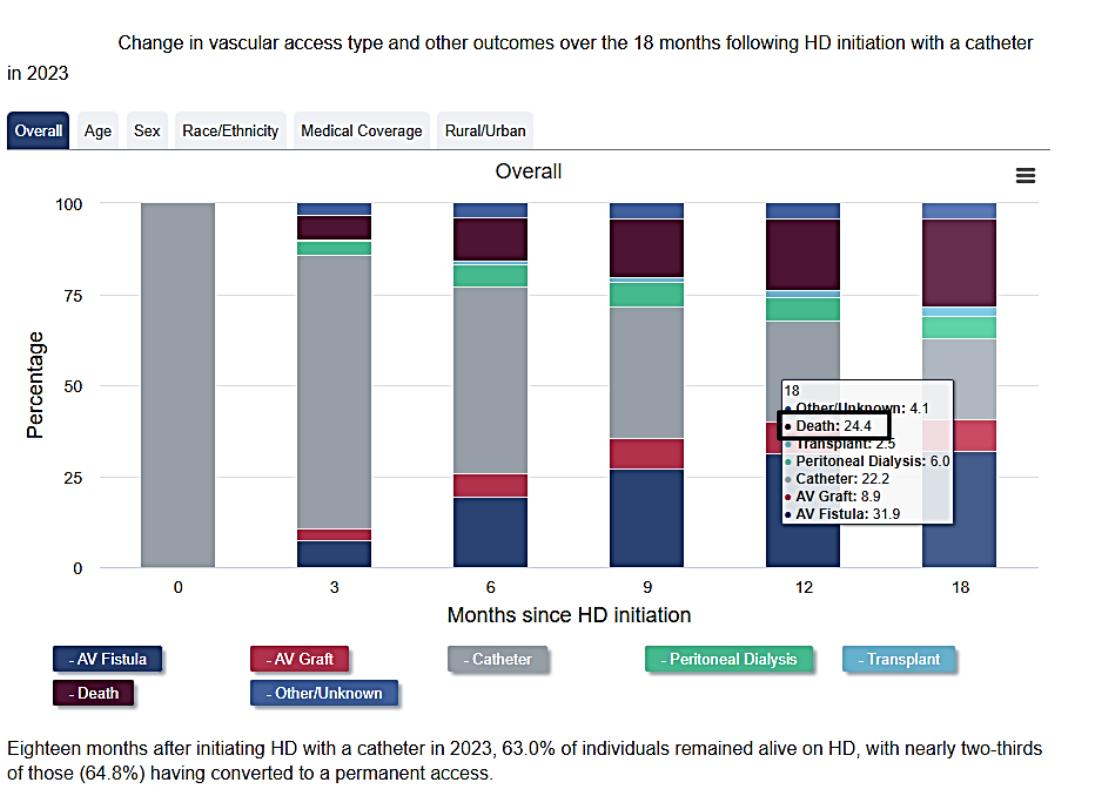
"Η χρήση καθετήρα σχετίζεται με σημαντικά αυξημένο κίνδυνο θνητότητας, ιδιαίτερα κατά το πρώτο έτος από την έναρξη της αιμοκάθαρσης"

ASN
American Society of Nephrology

The Plan- KDOQI 2019

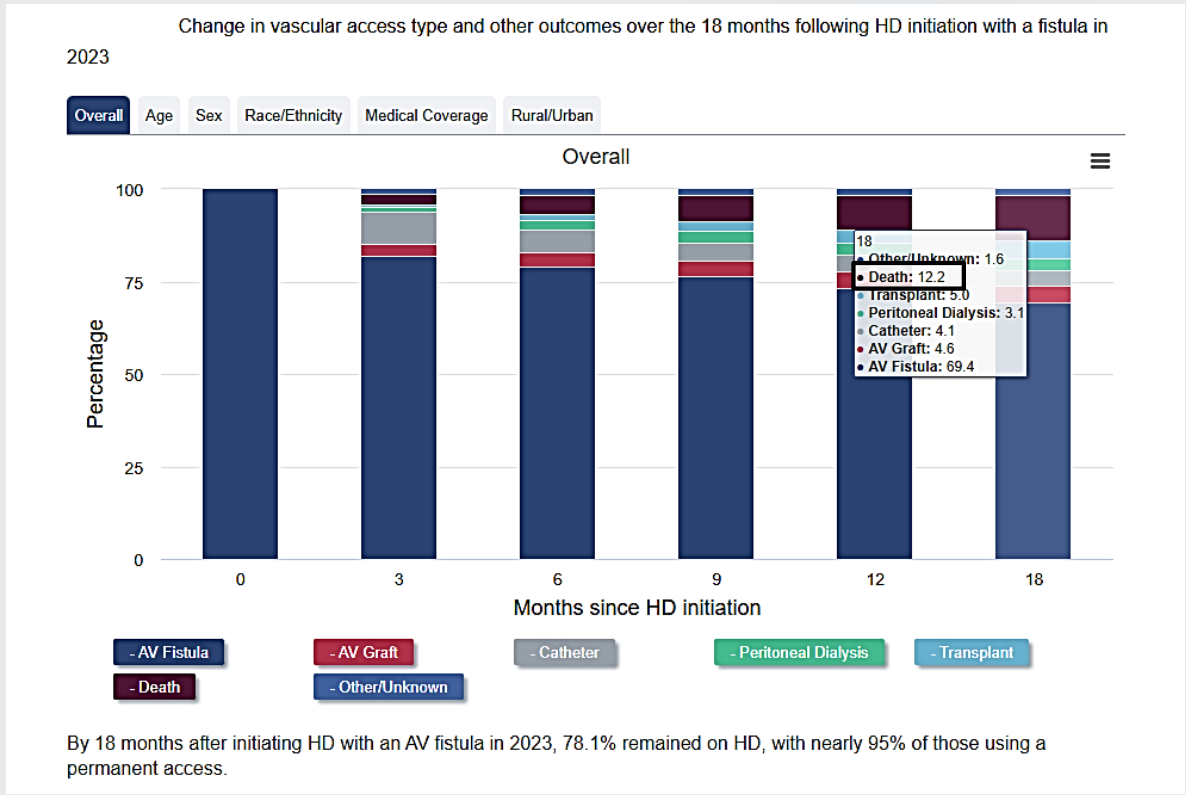
Hard Outcomes _ 2023- Θνητότητα

Catheter Users



Eighteen months after initiating HD with a catheter in 2023, 63.0% of individuals remained alive on HD, with nearly two-thirds of those (64.8%) having converted to a permanent access.

Fistula Users

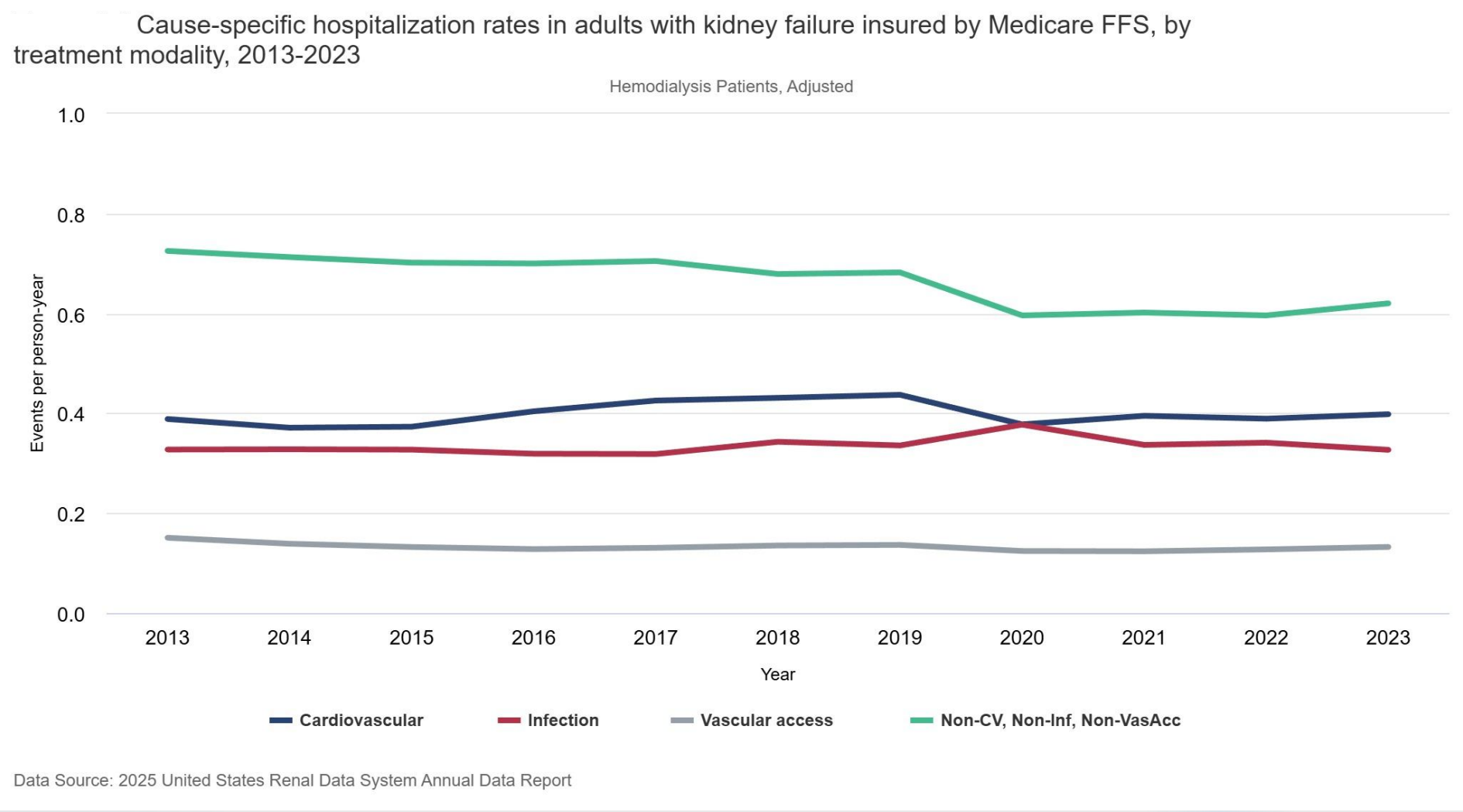


By 18 months after initiating HD with an AV fistula in 2023, 78.1% remained on HD, with nearly 95% of those using a permanent access.

United States Renal Data System. *2025 USRDS Annual Data Report: Epidemiology of Kidney Disease in the United States*. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health; 2025

The Plan- KDOQI 2019

Hard Outcomes _ 2013-2023- Νοσηρότητα



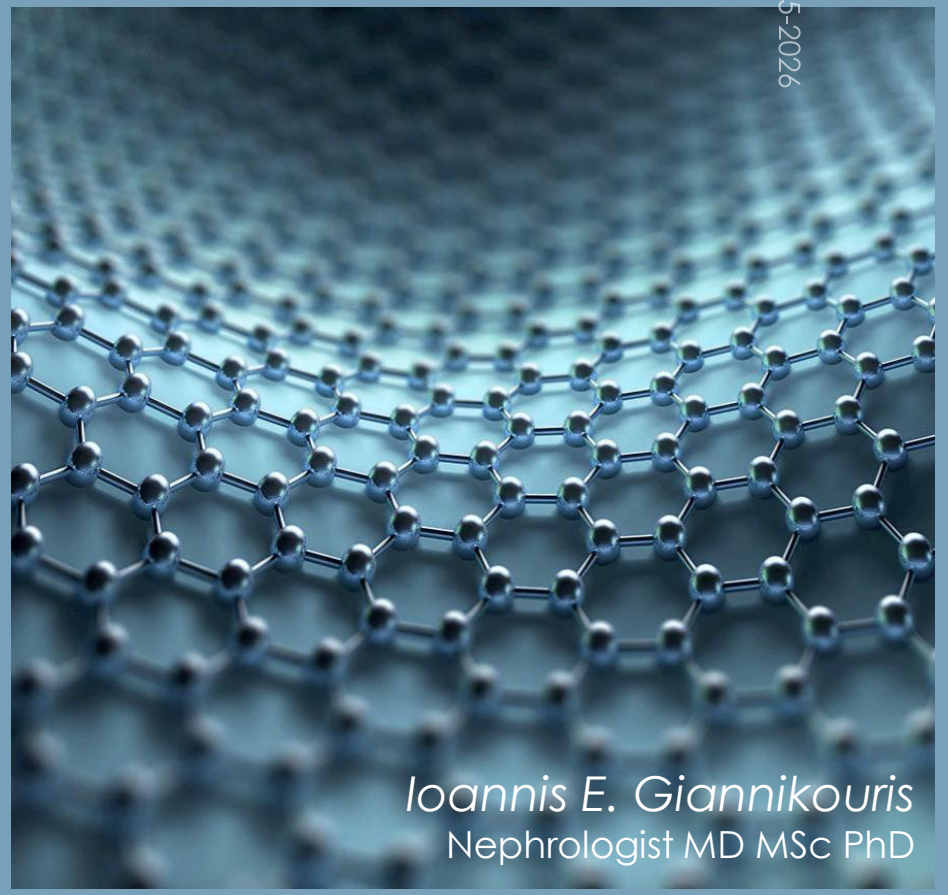
United States Renal Data System. *2025 USRDS Annual Data Report: Epidemiology of Kidney Disease in the United States*. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health; 2025

Forget The PLan

Fistula First

27ο Πανελλήνιο Συνέδριο Νεφρολογίας

FISTULAFIRST
National Vascular Access Improvement Initiative



Αλεξανδρούπολη 20-23 Μαΐου 2026

Fistula First_2026

Real World Data_2026

ORIGINAL INVESTIGATION | DIALYSIS · Volume 63, Issue 3, P464-478, March 2014

Patency Rates of the Arteriovenous Fistula for Hemodialysis: A Systematic Review and Meta-analysis

Ahmed A. Al-Jaishi, MSc [1,2,3] · Matthew J. Oliver, MD [4] · Sonia M. Thomas, MSc(c) [1,2,3] · ... · Sarah D. Kosa, MSc(c) [6] · Robert R. Quinn, MD [7] · Louise M. Moist, MD, MSc [1,2,3] ... Show more

Affiliations & Notes Article Info

62 κοορτές, n= 12.383 patients

- **Primary Failure** ≈23%
- **Primary Unassisted Patency**:
  - ~60% στο 1 έτος
  - ~51% στα 2 έτη
- **Secondary Patency**:
  - ~71% στο 1 έτος
  - ~64% στα 2 έτη
- **Συχνός Αριθμός διορθωτικών παρεμβάσεων**

Conclusion

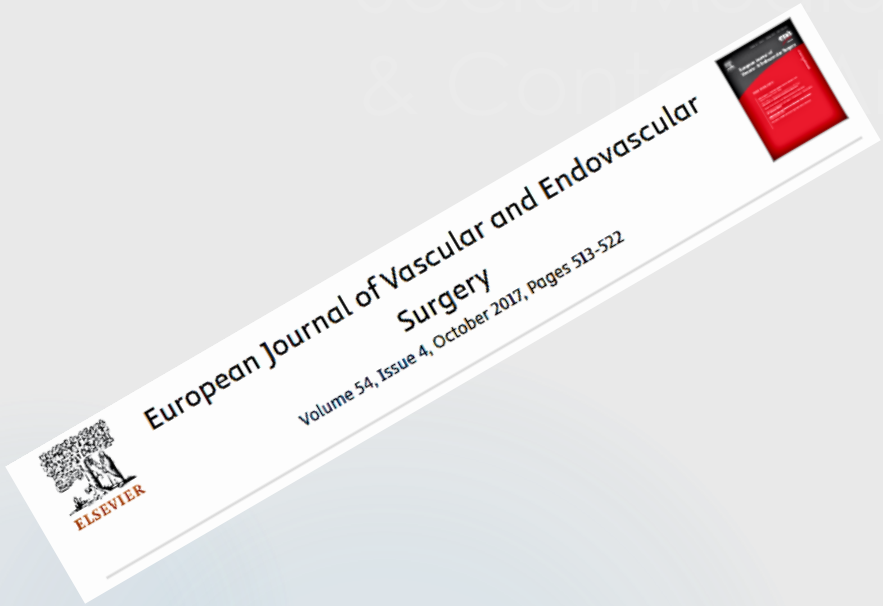
"Η fistula παραμένει η προσπέλαση με τα καλύτερα μακροπρόθεσμα αποτελέσματα. Τα τελευταία έτη, οι fistulae εμφάνισαν υψηλό ποσοστό πρωτογενούς αποτυχίας και χαμηλά έως μέτρια ποσοστά πρωτογενούς και δευτερογενούς βατότητας. Η συνεκτίμηση αυτών των εκβάσεων είναι απαραίτητη κατά την επιλογή του καταλληλότερου τύπου αγγειακής προσπέλασης για τον ασθενή"

Limitations

- Υψηλή ετερογένεια αποτελεσμάτων μεταξύ μελετών και κέντρων

Al-Jaishi AA, Oliver MJ, Thomas SM, Lok CE, Zhang JC, Garg AX, Kosa SD, Quinn RR, Moist LM. Patency rates of the arteriovenous fistula for hemodialysis: a systematic review and meta-analysis. Am J Kidney Dis. 2014 Mar;63(3):464-78. doi: 10.1053/j.ajkd.2013.08.023. Epub 2013 Oct 30. PMID: 24183112.

Fistula First_2026



Real World Data_2026

Arteriovenous Fistulae for Haemodialysis: A Systematic Review and Meta-analysis of Efficacy and Safety Outcomes

L.C. Bylsma [a], S.M. Gage [b c], H. Reichert [a], S.L.M. Dahl [b c], J.H. Lawson [b c]

318 μελέτες, n= 62.712 patients

- **Mean maturation t** ≈3.5 months
- **Unassisted maturation** 26% /6 months
- **Primary failure** 21%
- **Primary Unassisted Patency**:
  ~64% στο 1 έτος
- **Secondary Patency**:
  ~79% στο 1 έτος
- **Primary Assisted Patency**:
  ~73% στο 1 έτος

Conclusion

"Τα αναφερόμενα ποσοστά βατότητας των fistulae ενδέχεται να υπερεκτιμούν την πραγματική κλινική τους χρησιμότητα, όταν συνεκτιμώνται ο χρόνος ωρίμανσης, η εγκατάλειψη της προσπέλασης και οι λοιμώξεις."

Limitations

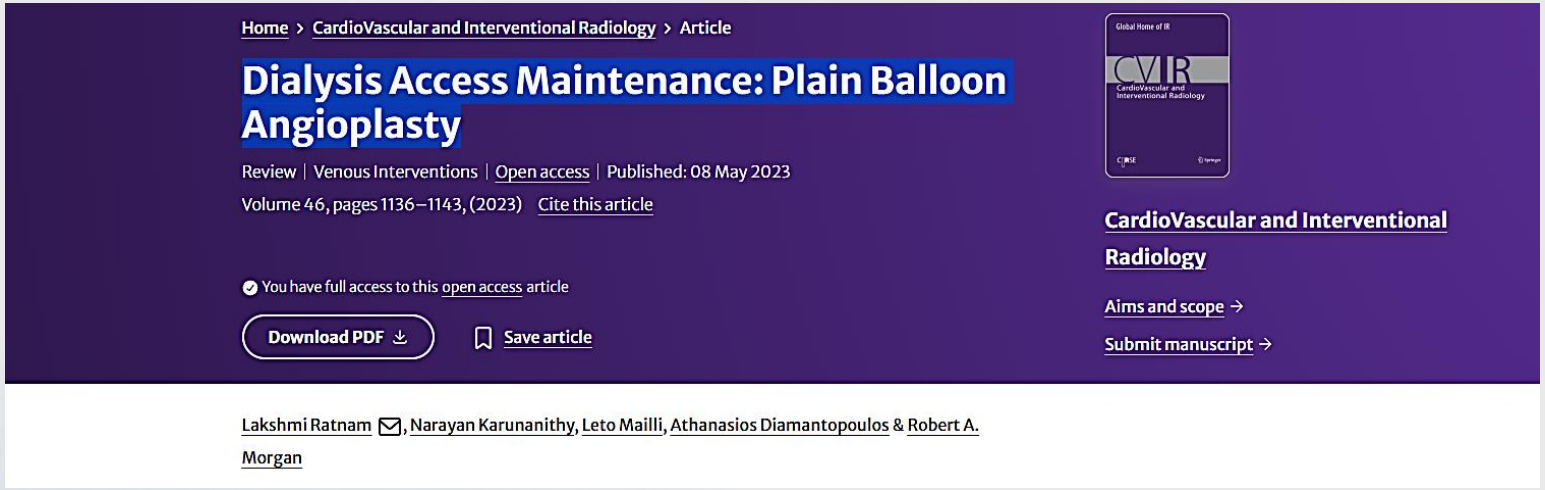
- Υψηλή ετερογένεια αποτελεσμάτων μεταξύ μελετών και κέντρων

Bylsma LC, Gage SM, Reichert H, Dahl SLM, Lawson JH. Arteriovenous Fistulae for Haemodialysis: A Systematic Review and Meta-analysis of Efficacy and Safety Outcomes. Eur J Vasc Endovasc Surg. 2017 Oct;54(4):513-522. doi: 10.1016/j.ejvs.2017.06.024. Epub 2017 Aug 23. PMID: 28843984.

Fistula First_2026

Real World Data_2026

21-05-2026



Conclusion

"Η PBA αποτελεί θεραπεία πρώτης γραμμής για στενώσεις αγγειακής προσπέλασης, με καλύτερα αποτελέσματα στις fistulae και αυξημένο κίνδυνο υποτροπής σε σοβαρότερες στενώσεις."

Limitations

- Απουσία λεπτομερούς ανάλυσης παραγόντων που ενδέχεται να επηρεάζουν τα αποτελέσματα

Cohort Studies- Comparative Trials n>30 patients/arm- Randomized Trials 1980-2022

- **Post-Intervention Primary Patency AVF (PBA)**:
  ~42-63% στους 6 μήνες, ~23-50.5% στους 12 μήνες

- **Post-Intervention Primary Patency AVG (PBA):**
  27-61.3% στους 6 μήνες, ~10-41% στους 12 μήνες

Ratnam L, Karunanithy N, Mailli L, Diamantopoulos A, Morgan RA. Dialysis Access Maintenance: Plain Balloon Angioplasty. Cardiovasc Intervent Radiol. 2023 Sep;46(9):1136-1143. doi: 10.1007/s00270-023-03441-x. Epub 2023 May 8. PMID: 37156943; PMCID: PMC10471649.

Fistula First_2026

Original research article

JVA The Journal of Vascular Access

Results of a hemodialysis vascular access routine ultrasound surveillance protocol and frequency of surveillance guided pre-emptive access maintenance interventions

The Journal of Vascular Access
1–8

DOI: 10.1177/11297298231207427
journals.sagepub.com/home/jva
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Real World Data_2026

21-05-2026

Table 1. Patient baseline demographical data.

Patient baseline demographical data	Number (%)
Patients	223
Mean age (years; SD)	66.3 ± 14.6
Male gender	157 (70)
Mean duration of hemodialysis (months; SD)	66 ± 143
Primary renal disease	
Diabetes	71 (32)
Unknown	67 (30)
Glomerulonephritis	21 (12)
Other	58 (26)
Comorbidities	
Diabetes	75 (34)

Table 3. Overall primary unassisted patency rate of vascular access.

Primary unassisted patency rate	12 months (95% CI)	24 months (95% CI)	36 months (95% CI)
Total	83 (77–87)	75 (68–80)	72 (66–78)
AVF	89 (84–93)	81 (74–86)	80 (72–85)
AVG	56 (39–70)	44 (27–59)	39 (23–55)

AVF: arteriovenous fistula; AVG: arteriovenous graft.

Table 4. Overall secondary patency rate of vascular access.

Secondary patency rate	12 months (95% CI)	24 months (95% CI)	36 months (95% CI)
Total	93 (89–96)	88 (82–91)	83 (77–88)
AVF	96 (92–98)	93 (87–96)	89 (83–93)
AVG	80 (64–90)	65 (48–78)	54 (36–70)

AVF: arteriovenous fistula; AVG: arteriovenous graft.

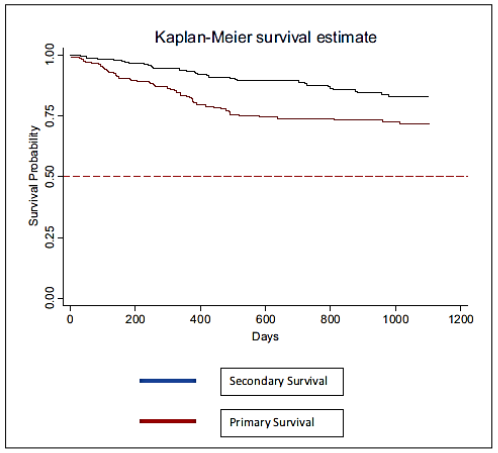


Figure 1. All-access primary and secondary survival rates. Denoted with red line total access primary unassisted survival and with blue line total access secondary survival of all accesses.

Table 5. Number of thrombotic events in all accesses during the study period, per access type. Number of events per year of follow-up, and per 1000 days of follow-up, overall and per access type.

Access	Number of thrombosis (%)	Number/year (95% CI)	Number/1000 days follow-up (95% CI)
All access	33	0.06 (0.05–0.09)	0.18 (0.12–0.25)
AVF	17	0.04 (0.02–0.06)	0.11 (0.07–0.17)
AVG	16	0.20 (0.13–0.33)	0.56 (0.34–0.92)

AVF: arteriovenous fistula; AVG: arteriovenous graft.

Table 6. Number of procedures performed in all accesses during the study period, per access type. Number (frequency) of procedures performed per year of follow-up, and per 1000 days of follow-up, overall and per access type.

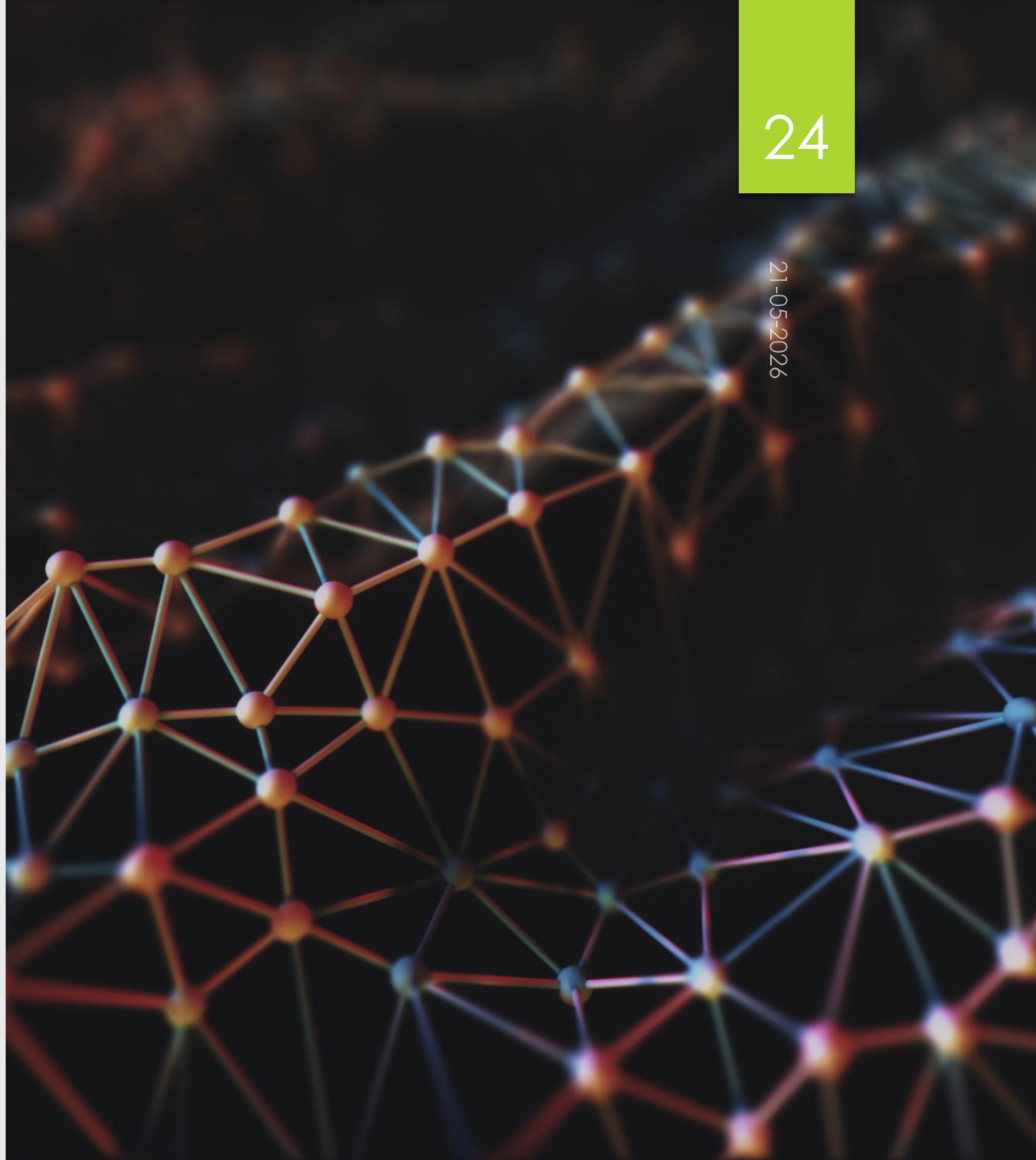
Access	Number of procedures (%)	Number/year (95% CI)	Number/1000 days follow-up (95% CI)
All access	56 (23)	0.13 (0.10–0.16)	0.35 (0.27–0.45)
AVF	34 (18)	0.09 (0.06–0.12)	0.24 (0.17–0.33)
AVG	22 (43)	0.40 (0.27–0.61)	1.11 (0.73–1.68)

AVF: arteriovenous fistula; AVG: arteriovenous graft.

Giannikouris IE, Georgiadis GS, Giannakopoulos T, Passadakis P, Spiliopoulos S. Results of a hemodialysis vascular access routine ultrasound surveillance protocol and frequency of surveillance guided pre-emptive access maintenance interventions. J Vasc Access. 2025 Jan;26(1):234-241. doi: 10.1177/11297298231207427. Epub 2023 Nov 13. PMID: 37953744.

Fistula First_2026

Αχίλλειος πτέρνα



Reconsider Fistula First

Optimal Access First, Catheter Last Initiative_2026

The Ultimate PLan

- Υπερηχογραφική προεγχειρητική χαρτογράφηση αγγείων και προηγμένος απεικονιστικός έλεγχος σε όλους τους ασθενείς
- Πολυεπιστημονική συνεργασία (Vascular Access Team), με ενεργή συμμετοχή Νεφρολόγων
- Ασθενοκεντρική προσέγγιση με όρια που καθορίζονται από τη βέλτιστη κλινική έκβαση

- Όλοι οι ασθενείς κατάλληλοι για fistula ή graft βάσει προεγχειρητικού ελέγχου εκτός αν :
  - Προσωρινή Θεραπεία ≥2-3 εβδομάδες
  - Μεταμόσχευση Νεφρού εντός 6 μηνών
  - Συννοσηρότητα και προσδόκιμο επιβίωσης (< 6 μηνών)
  - Πολλαπλές ανεπιτυχείς VA
  - Εξάντληση διαθέσιμων θέσεων
  - Σοβαρή καρδιακή ανεπάρκεια EF<25%

Optimal Access First, Catheter Last Initiative_2026

The Ultimate PLan

• Κεντρική fistula vs περιφερικό graft (?), RCAVF►EndoAVF►BCAVF

• Πρόγραμμα συστηματικής παρακολούθησης και διαχείρισης αγγειακών προσπελάσεων.

Εξέταση + Επιτήρηση

• Έγκαιρη επέμβαση διατήρησης βατότητας βάσει ευρημάτων κυρίως επιτήρησης (ροή-απόδοση προσπέλασης)

• Ευαισθητοποίηση για την προστασία επιπολής και εν τω βάθει φλεβικού κεφαλαίου

• Στρατηγική διάσωσης θέσης και εξάντληση δεξιάς πλευράς (υπερκλείδιος προσπέλαση)- καθετήρες αιμοκάθαρσης


"With great power comes great responsibility"
© 2022 MARVEL
Captured on PC

Έλενα

Thank You!

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Μανώλης