Up to Date: le linee guida sull'accesso dialitico

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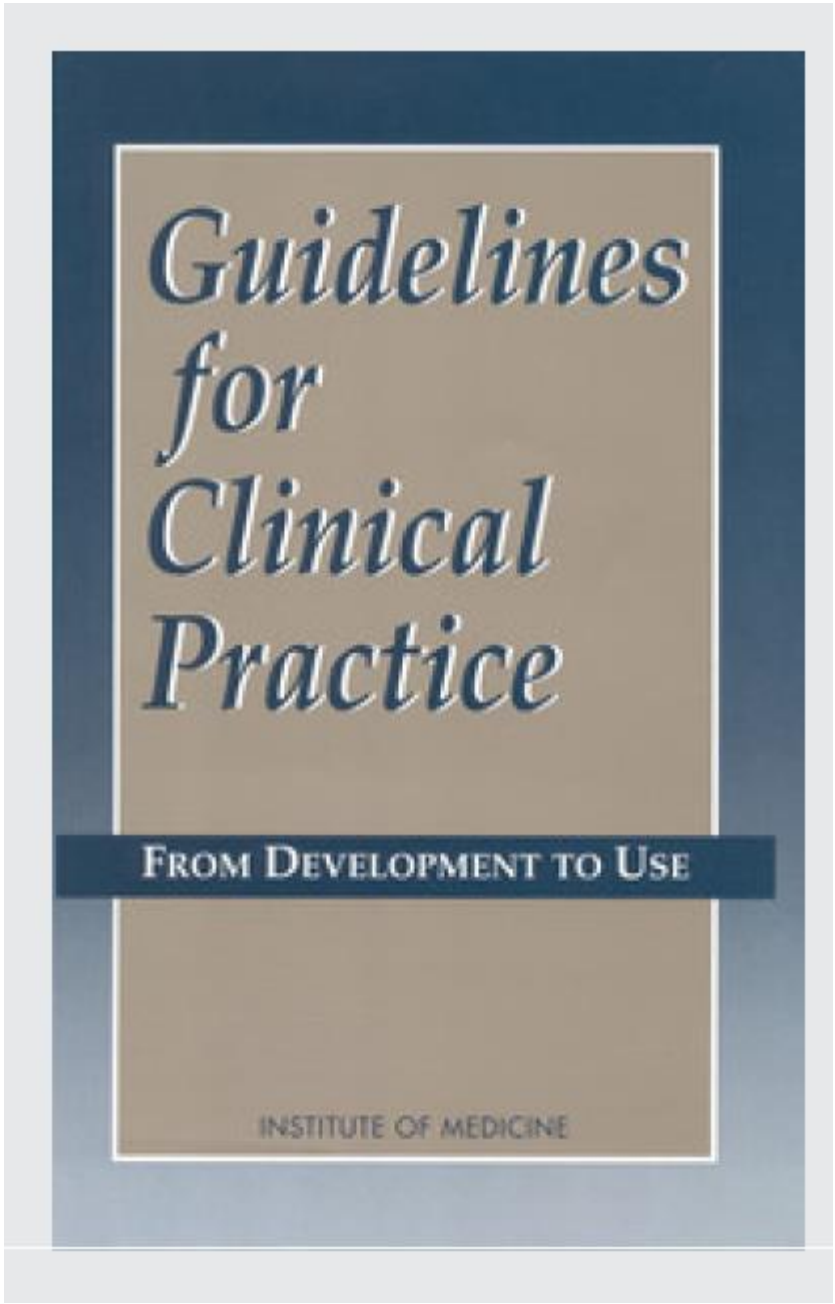
Definizione di linee guida

The origin of the word ‘guideline’ comes from the practice of mountain guides who marked a climbing trail up and down a particular mountain using ropes and stakes. The climbing pathway identified by this technique was deemed safe and user-friendly, and was primarily intended for persons with less climbing or mountaineering experience. Although there were innumerable routes up and down any one mountain, the use of the guideline provided the fastest, surest and safest way for experts and nonexperts alike.

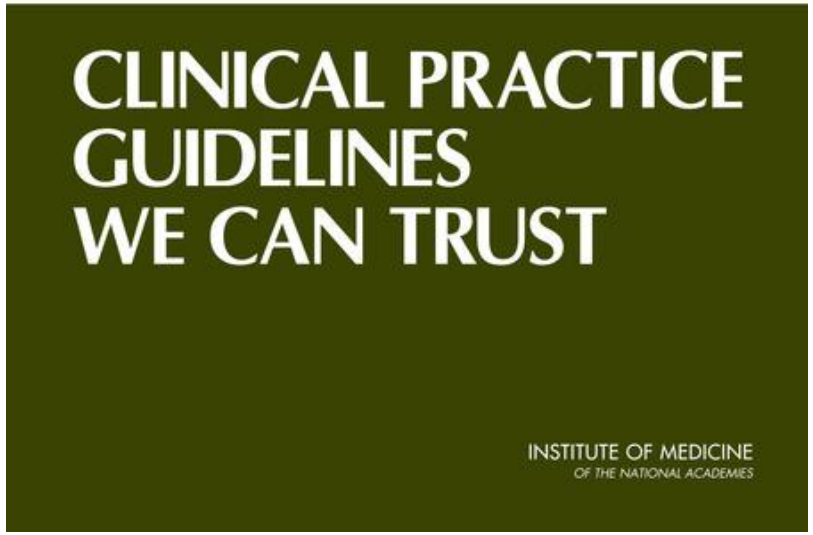
Stone JA, et al. Can J Cardiol. 2008;24(10):753



Definizione di linee guida

As defined in the IOM's 1990 report, practice guidelines are "systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances"

Institute of Medicine. Guidelines for clinical practice: from development to use. Washington DC: National Academic Press, 1992



Definizione di linee guida

In another IOM's 2011 report, practice guidelines were defined as "statements that include recommendations, intended to optimize patient care, that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options"

Institute of Medicine. Consensus report, Institute of Medicine. Clinical practice guidelines we can trust. March 23, 2011. http://www.iom.edu/Reports/2011/Clinical-Practice-Guidelines-We-Can-Trust.aspx

Criteri per la produzione di linee guida di practica clinica affidabili

Standard	Comments
1. Transparency	Guidelines should include an explicit description of process and funding.
2. Conflict of interest	Conflicts of interest for the guidelines development group should be managed by reporting, exclusion, and divestments.
3. Members of the guidelines development group	The group should be multidisciplinary and balanced.
4. Review of the literature	The guideline should be based on systematic reviews of the literature.
5. Rating strength of evidence and recommendations	Each recommendation should be accompanied by the underlying reasoning, potential benefits and harms, the evidence and its quality, the contribution of values and experience, rating of the level of confidence in the evidence and the strength of the recommendation, and differences of opinion regarding recommendations.
6. Presentation of recommendations	The guideline should state precisely the recommended actions, when they should be performed, and how they could be measured for evaluation of compliance.
7. External review	The guidelines should be reviewed by the full spectrum of relevant stakeholders. The general public should have an opportunity to review the guidelines before they are final.
8. Updating	Guidelines should state date of publication and evidence review and be updated when new, clinically-important evidence is available.

UpToDate 2022, based on *http://nationalacademies.org/hmd/Reports/2011/Clinical-Practice-Guidelines-We-Can-Trust.aspx*.

Uso ed utilizzatori delle linee guida

Le linee guida hanno lo scopo di aiutare i medici a prendersi cura meglio dei pazienti. Tuttavia, altre figure possono utilizzare le linee guida in modi diversi

- **Ad esempio, i funzionari ministeriali e regionali, i responsabili delle assicurazioni sanitarie e gli amministratori delle strutture ospedaliere possono utilizzarle per misurare la qualità e determinare la rimborsabilità delle prestazioni.**
- **Possono essere adottate come indicatori di riferimento (benchmark) ed utilizzate per valutare l'erogazione delle cure. In altri termini, queste misure delle prestazioni possono essere utilizzate in programmi che collegano il pagamento delle prestazioni sanitarie alla qualità dell'assistenza, in base a parametri di assistenza clinica derivati dalle linee guida**
- **Possono essere utilizzate nel contenzioso medico-legale.**

Modificato da UpToDate 2022

Le linee guida sono suggerimenti per la cura, non dogmi

Ci saranno sempre singoli pazienti che possono/devono essere gestiti in modo diverso da quanto indicato nelle linee guida, per i seguenti motivi:

- **differenze biologiche nel metabolismo dei farmaci, nella risposta immunitaria o nel patrimonio genetico;**
- **la presenza di comorbilità;**
- **risorse disponibili per il sistema sanitario in specifici contesti locali, determinate dall'ambiente sociale ed economico**
- **preferenze del paziente.**

Tuttavia, in genere le raccomandazioni delle linee guida si applicano alla maggior parte dei pazienti

UpToDate 2022; Wilson MC, et al. JAMA. 1995;274(20):1630.

Abbiamo necessità di linee guida per gli accessi vascolari?

SONG initiative
Definition of relevant outcomes in hemodialysis

Kidney Week of the American Society of Nephrology (ASN), Chicago, Illinois, USA, 2016

AJKD

Original Investigation

Developing a Set of Core Outcomes for Trials in Hemodialysis: An International Delphi Survey

*Nicole Evangelidis, BSocSc,[1,2] Allison Tong, PhD,[1,2] Braden Manns, MD, MSc,[3] Brenda Hemmelgarn, MD, PhD,[3] David C. Wheeler, MD,[4] Peter Tugwell, MD,[5] Sally Crowe, PGDip,[6] Tess Harris,[7] Wim Van Biesen, MD, PhD,[8] Wolfgang C. Winkelmayer, MD, ScD,[9] Benedicte Sautenet, MD, PhD,[1,2,10,11] Donal O'Donoghue, MB,[12] Helen Tam-Tham, MSc,[3] Sajeda Youssouf, MD,[12] Sreedhar Mandayam, MD, PhD,[9] Angela Ju, BSc (Hons),[1,2] Carmel Hawley, MBBS,[13,14,15] Carol Pollock, PhD,[16] David C. Harris, MD, MBBS,[17] David W. Johnson, PhD,[13,14,15] Dena E. Rifkin, MD,[18,19] Francesca Tentori, MD, MS,[20] John Agar, MBBS,[21] Kevan R. Polkinghorne, PhD,[22,23] Martin Gallagher, PhD,[24] Peter G. Kerr, PhD,[22] Stephen P. McDonald, PhD,[25,26] Kirsten Howard, PhD,[1] Martin Howell, PhD,[1,2] and Jonathan C. Craig, PhD,[1,2] on behalf of the Standardized Outcomes in Nephrology–Hemodialysis (SONG-HD) Initiative**

Am J Kidney Dis. 2017;70(4):464-475

SONG initiative – Hemodialysis

Box 1. High-rating Outcome Domains and Definitions

Vascular access problems

Problems with fistula, graft, or catheter required for dialysis (eg, access infections, bleeding, bruising, pain, discomfort, clotting)

Death/mortality

No. of people on hemodialysis therapy who have died, risk for death, how long the patient will live

Cardiovascular disease

Disease of the heart and blood vessels (eg, heart attack, stroke, blockage of blood vessels)

Dialysis adequacy

How well the dialysis cleans the blood, clearance, Kt/V

Fatigue/energy

Feeling tired with no energy for weeks, for most of the time

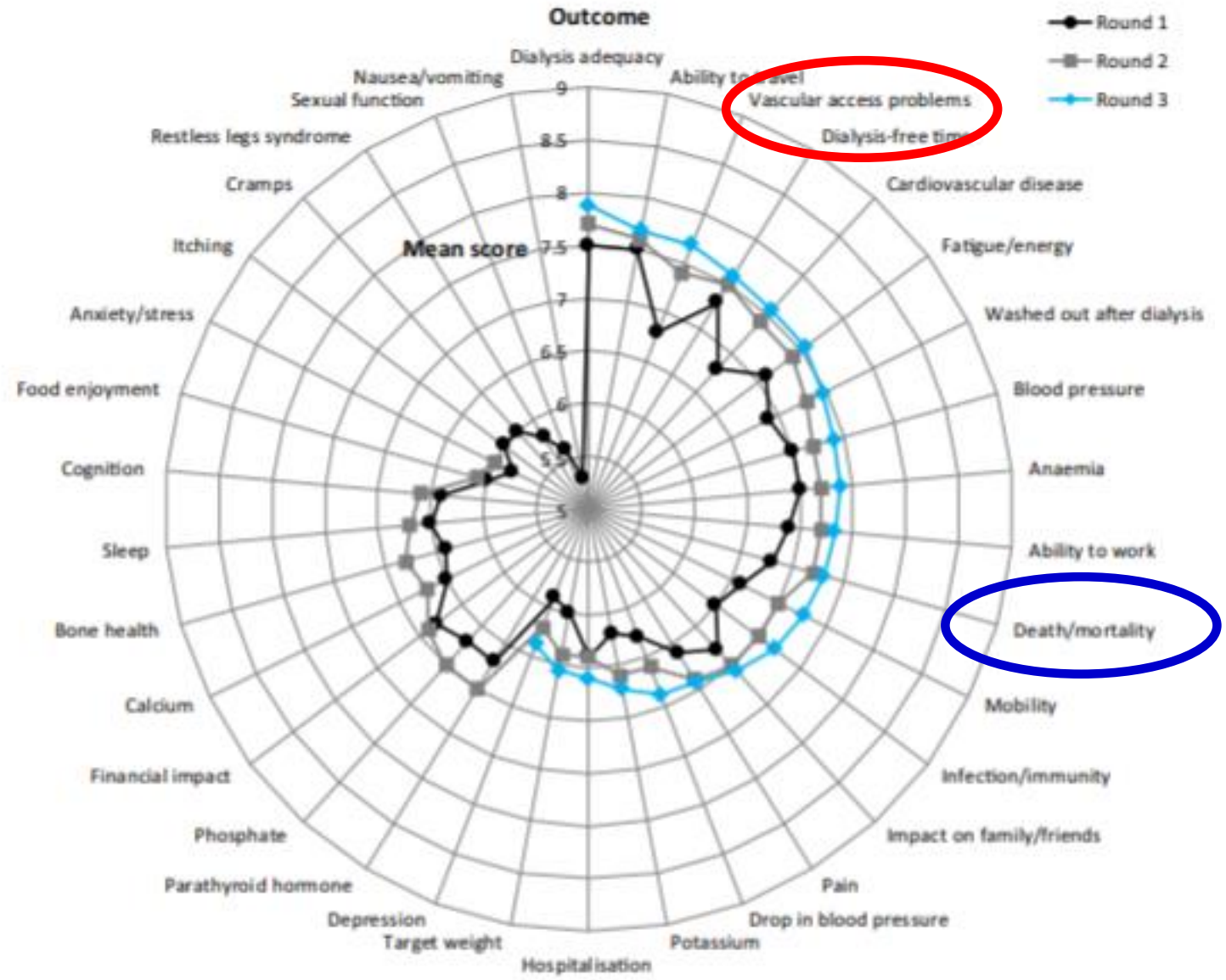
Ability to travel

To go away for holiday/vacation, event, visiting family, work

Dialysis-free time

Time (hours/days) not doing dialysis

SONG initiative, Vascular Access – Patients and caregivers scores



e 1. Mean scores of patients/caregivers in rounds 1 to 3. Ordered by round 3 scores. Round 1 (n = 202); rou

SONG initiative, Vascular Access - Health professionals scores

Mean scores of health professionals in rounds 1 to 3. Ordered by round 3 scores. Round 1 (n = 979); rour

PLOS ONE | PLOS ONE | DOI:10.1371/journal.pone.0128228 July 7, 2015

RESEARCH ARTICLE

Setting Priorities for Optimizing Vascular Access Decision Making – An International Survey of Patients and Clinicians

Sabine N. van der Veer[1,2]*, Maria C. Haller[1,3,4], Carina A. C. M. Pittens[5], Jacqueline Broerse[5], Clare Castledine[6], Maurizio Gallieni[7,8], Nicholas Inston[9,10], Anna Marti Monros[11], Niels Peek[2], Wim van Biesen[1,12]

Aim: Explore and compare kidney patients' and clinicians' views on what vascular access-related decisions deserved priority across Europe.

PLOS ONE

RESEARCH ARTICLE

Setting Priorities for Optimizing Vascular Access Decision Making – An International Survey of Patients and Clinicians

Sabine N. van der Veer[1,2]*, Maria C. Haller[1,3,4], Carina A. C. M. Pittens[5], Jacqueline Broerse[5], Clare Castledine[6], Maurizio Gallieni[7,8], Nicholas Inston[9,10], Anna Marti Monros[11], Niels Peek[2], Wim van Biesen[1,12]

PLOS ONE | DOI:10.1371/journal.pone.0128228 July 7, 2015

Results: **Selection of access type and site, as well as prevention of access infections received top priority across all respondent groups. Patients generally assigned higher priority to decisions regarding managing adverse effects of arteriovenous access and patient involvement in care, while clinicians more often prioritized decisions around sustaining patients' access options, technical aspects of access creation, and optimizing fistula maturation and patency.**

Table 2. Comparing priority ratings between kidney patients and clinicians for the ten topics to which *patients* assigned highest priority. Abbreviations: N, number of respondents who rated the importance of a topic; SD, standard deviation.

	KIDNEY PATIENTS			CLINICIANS								
				Nephrologists (N = 687)			*Nurses (N = 194)*			*Surgeons & radiologists (N = 140)*		
Topic	Rank [a]	N	Mean adjusted (SD) rating	Rank [a]	Mean adjusted (SD) rating	P-value [b]	Rank [a]	Mean adjusted (SD) rating	P-value [b]	Rank [a]	Mean adjusted (SD) rating	P-value [b]
Catheter thrombosis	1	9	4.47 (0.33)	14	4.33 (0.33)	0.25	11	4.33 (0.33)	0.24	28	4.12 (0.37)	**0.011**
Selection of vascular access type [c]	2	85	4.39 (0.29)	2	4.49 (0.31)	**< 0.01**	9	4.34 (0.37)	0.22	1	4.57 (0.24)	**< 0.001**
Training clinicians to create/maintain access	3	85	4.37 (0.41)	13	4.34 (0.34)	0.53	14	4.32 (0.34)	0.35	8	4.41 (0.36)	0.41
Catheter infection	4	9	4.36 (0.19)	1	4.53 (0.27)	0.03	1	4.49 (0.27)	0.08	18	4.30 (0.37)	0.40
Fistula/graft infection	6	76	4.35 (0.36)	4	4.40 (0.33)	0.26	3	4.41 (0.29)	0.21	16	4.31 (0.32)	0.36

I pazienti e il personale sanitario hanno priorità diverse nella cura dell'accesso vascolare

van der Veer SN, et al. (2015). PLOS ONE 10(7): e0128228.

Table 3. Comparing priority ratings between kidney patients and clinicians for topics to which clinicians assigned high priority, but that were absent in patients' top 10.

	KIDNEY PATIENTS			CLINICIANS								
				Nephrologists (N = 687)			*Nurses (N = 194)*			*Surgeons & radiologists (N = 140)*		
Topic	**N**	**Rank [a]**	**Mean adjusted (SD) rating**	**Rank [a]**	**Mean adjusted (SD) rating**	**P-value [b]**	**Rank [a]**	**Mean adjusted (SD) rating**	**P-value [b]**	**Rank [a]**	**Mean adjusted (SD) rating**	**P-value [b]**
Preservation of veins	84	18	4.24 (0.51)	3	4.45 (0.36)	**< 0.01**	2	4.43 (0.33)	**< 0.01**	2	4.56 (0.34)	**< 0.001**
Central vein obstruction	9	24	4.22 (0.26)	6	4.40 (0.31)	0.07	7	4.36 (0.29)	0.13	7	4.41 (0.32)	0.06
Fistula/graft thrombosis	76	11	4.31 (0.34)	10	4.36 (0.34)	0.18	5	4.40 (0.27)	0.05	11	4.37 (0.35)	0.19
Fistula/graft stenosis	76	20	4.24 (0.35)	9	4.37 (0.34)	**< 0.01**	8	4.36 (0.29)	**< 0.01**	10	4.38 (0.34)	**< 0.01**
Surveillance of fistula/graft (dys)function	76	14	4.26 (0.30)	12	4.34 (0.35)	0.06	10	4.33 (0.34)	0.12	12	4.33 (0.35)	0.14
Surgical techniques for fistula/graft creation	75	33	4.10 (0.43)	8	4.39 (0.35)	**< 0.001**	21	4.24 (0.43)	0.02	3	4.54 (0.28)	**< 0.001**
Timing of vascular access creation	84	26	4.21 (0.39)	7	4.39 (0.35)	**< 0.001**	22	4.24 (0.36)	0.50	9	4.38 (0.33)	**0.013**
Perioperative fistula/graft thrombosis	75	12	4.30 (0.37)	20	4.29 (0.38)	0.71	6	4.37 (0.34)	0.18	21	4.26 (0.35)	0.41

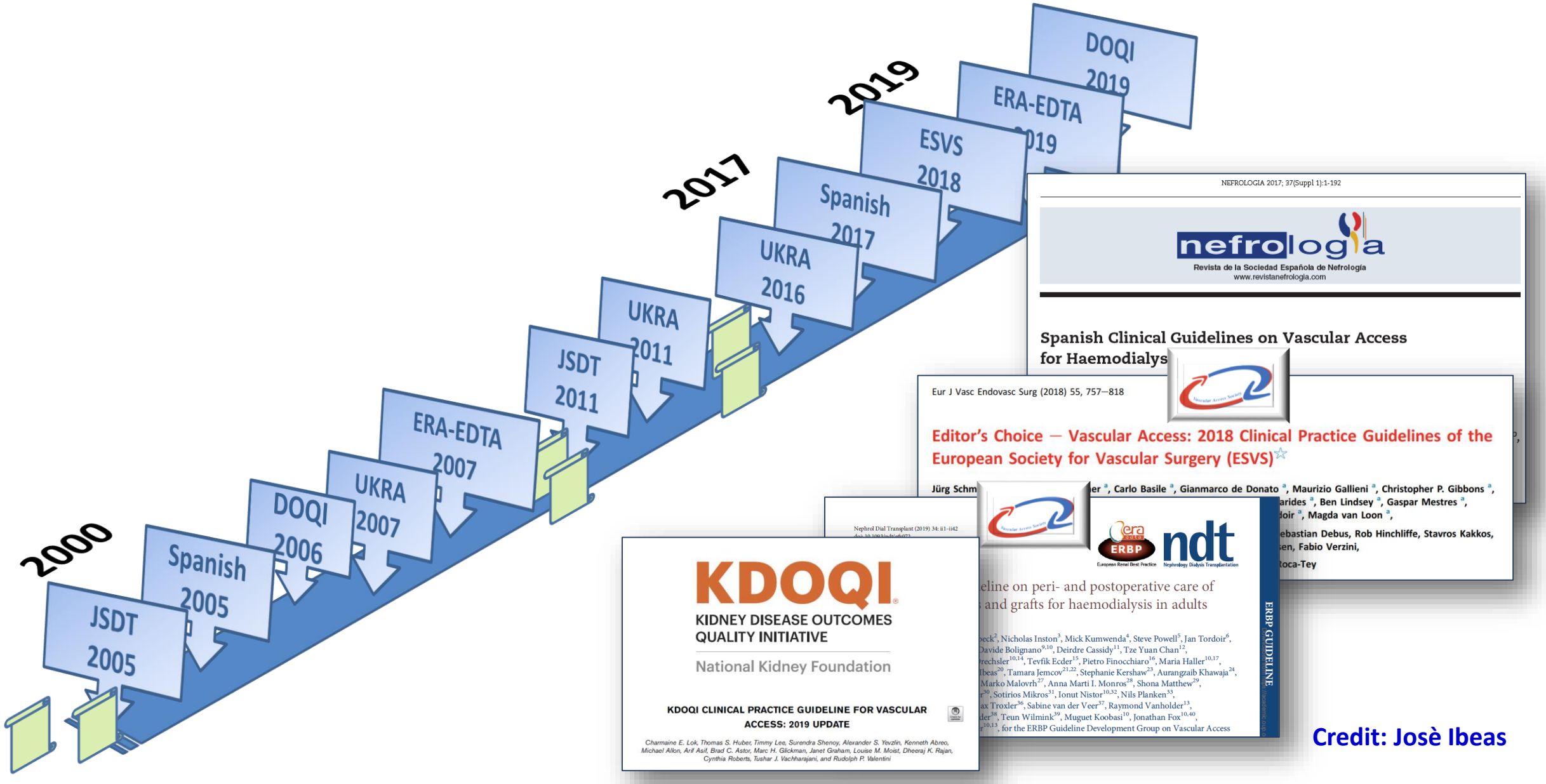
[a] Ranking based on mean (standard deviation) standardized ratings

[b] Based on two sample t-test of mean standardized ratings between patients and clinician group. P-values of <0.01 indicate a disagreement on priorities between patients and clinicians, with values between 0.010 and 0.014 being considered borderline significant.

doi:10.1371/journal.pone.0128228.t003

van der Veer SN, et al. (2015). PLOS ONE 10(7): e0128228.

Linee guida dell'accesso vascolare per emodialisi: cosa è disponible



Credit: Josè Ibeas

Linee guida dell'accesso vascolare per emodialisi: confronto

GUIDE	Year	Method	Recomendations	Citations	Quality Indicators
JSDT	2011	GRADE	139	364	
UKRA	2015	GRADE	21	73	
GEMAV	2017	GRADE	134	955	29
ESVS	2018	Eur Soc Cardiol	78	652	
EDTA	2019	GRADE	32	129	
K-DOQI	2019	GRADE	168	645	

Analisi di un ambito in cui le linee guida sono discordanti:
la sorveglianza dell’accesso vascolare AV

Eur J Vasc Endovasc Surg (2018) ■, 1—62

Vascular Access: 2018 Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS)☆

Jürg Schmidli [a,*], Matthias K. Widmer [a], Carlo Basile [a], Gianmarco de Donato [a], Maurizio Gallieni [a], Christopher P. Gibbons [a], Patrick Haage [a], George Hamilton [a], Ulf Hedin [a], Lars Kamper [a], Miltos K. Lazarides [a], Ben Lindsey [a], Gaspar Mestres [a], Marisa Pegoraro [a], Joy Roy [a], Carlo Setacci [a], David Shemesh [a], Jan H.M. Tordoir [a], Magda van Loon [a],

ESVS Guidelines Committee [b], Philippe Kolh, Gert J. de Borst, Nabil Chakfe, Sebastian Debus, Rob Hinchliffe, Stavros Kakkos, Igor Koncar, Jes Lindholt, Ross Naylor, Melina Vega de Ceniga, Frank Vermassen, Fabio Verzini,

ESVS Guidelines Reviewers [c], Markus Mohaupt, Jean-Baptiste Ricco, Ramon Roca-Tey

Recommendation 45	Class	Level	Refs.
It is recommended that vascular access surveillance is performed by flow measurement of arteriovenous grafts monthly and arteriovenous fistulas every 3 months.	I	B	405,428,429
Recommendation 46			
When arteriovenous fistula blood flow measurements during dialysis indicate the presence of a vascular access stenosis based on a Qa <500 ml/min, angiographic assessment of the access should be considered.	IIa	B	427,430
Recommendation 47			
Venous pressure adjusted for the mean arterial pressure >.50 (or derived static venous pressure adjusted for the mean arterial pressure >.55) is not a reliable indicator of stenosis and intervention based on this finding is not recommended.	III	C	417
Recommendation 48			
When haemodialysis efficiency is impaired, investigation and correction of an underlying vascular access stenosis should be considered.	IIa	B	370,425,426

Recommendation 49	Class	Level	Refs.
Surveillance of arteriovenous fistulas with duplex ultrasound at regular intervals and pre-emptive balloon angioplasty should be considered to reduce the risk of arteriovenous fistula thrombosis.	IIa	A	385
Recommendation 50			
Surveillance of arteriovenous grafts with duplex ultrasound at regular intervals and pre-emptive balloon angioplasty is not recommended to prevent thrombosis or improve arteriovenous graft functionality.	III	A	385,386

Nephrol Dial Transplant (2019) 34: ii1–ii42
doi: 10.1093/ndt/gfz072

Clinical practice guideline on peri- and postoperative care of arteriovenous fistulas and grafts for haemodialysis in adults

Maurizio Gallieni[1], Markus Hollenbeck[2], Nicholas Inston[3], Mick Kumwenda[4], Steve Powell[5], Jan Tordoir[6], Julien Al Shakarchi[7], Paul Berger[8], Davide Bolignano[9,10], Deirdre Cassidy[11], Tze Yuan Chan[12], Annemieke Dhondt[13], Christiane Drechsler[10,14], Tevfik Ecder[15], Pietro Finocchiaro[16], Maria Haller[10,17], Jennifer Hanko[18], Sam Heye[19], Jose Ibeas[20], Tamara Jemcov[21], Stephanie Kershaw[22], Aurangzaib Khawaja[23], Laura Labriola[24], Carlo Lomonte[25], Marko Malovrh[26], Anna Marti I. Monros[27], Shona Matthew[28], Damian McGrogan[7], Torsten Meyer[29], Sotirios Mikros[30], Ionut Nistor[10,31], Nils Planken[32], Ramon Roca-Tey[33], Rose Ross[34], Max Troxler[35], Sabine van der Veer[36], Raymond Vanholder[13], Frank Vermassen[13], Gunilla Welander[37], Teun Wilmink[38], Muguet Koobasi[10], Jonathan Fox[10,39], Wim Van Biesen[10,13] and Evi Nagler[10,13], for the ERBP Guideline Development Group on Vascular Access

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Giornale Italiano di Nefrologia

Linee guida di pratica clinica sulla cura peri- e post-operatoria delle fistole e delle protesi arterovenose per emodialisi negli adulti. Sintesi delle raccomandazioni delle "European Renal Best Practice (ERBP)"

In depth review

Maurizio Gallieni[1], Markus Hollenbeck[2], Nicholas Inston[3], Mick Kumwenda[4], Steve Powell[5], Jan Tordoir[6], Julien Al Shakarchi[7], Paul Berger[8], Davide Bolignano[9,10], Deirdre Cassidy[11], Tze Yuan Chan[12], Annemieke Dhondt[13], Christiane Drechsler[10,14], Tevfik Ecder[15], Pietro Finocchiaro[16], Maria Haller[10,17], Jennifer Hanko[18], Sam Heye[19], Jose Ibeas[20], Tamara Jemcov[21], Stephanie Kershaw[22], Aurangzaib Khawaja[23], Laura Labriola[24], Carlo Lomonte[25], Marko Malovrh[26], Anna Marti i Monros[27], Shona Matthew[28], Damian McGrogan[7], Torsten Meyer[29], Sotirios Mikros[30], Ionut Nistor[10,31], Nils Planken[32], Ramon Roca-Tey[33], Rose Ross[34], Max Troxler[35], Sabine van der Veer[36], Raymond Vanholder[13], Frank Vermassen[13], Gunilla Welander[37], Teun Wilmink[38], Muguet Koobasi[10], Jonathan Fox[10,39], Wim Van Biesen[10,13] and Evi Nagler[10,13], a nome del ERBP Guideline Development Group on Vascular Access.

Traduzione in lingua italiana a cura di Giuseppe Gatta

S.C. di Nefrologia e Dialisi, Ospedale "Casa Sollievo della Sofferenza" IRCCS, San Giovanni Rotondo, 71013, Italia

European Renal Best Practice

Chapter 7. Vascular access surveillance

Arteriovenous fistulas

7.1. We suggest the evidence for technical surveillance in addition to clinical monitoring of a functional arteriovenous fistula to detect and pre-emptively correct a haemodynamically important arteriovenous access stenosis in adults is inconclusive and needs more research. (2C)

Arteriovenous grafts

7.2. We suggest against technical surveillance in addition to clinical monitoring of a functional arteriovenous graft to detect and pre-emptively correct a haemodynamically important arteriovenous access stenosis in adults unless it occurs in the context of a clinical study. (2C)

KDOQI
KIDNEY DISEASE OUTCOMES QUALITY INITIATIVE
National Kidney Foundation

Sorveglianza fistola AV

Surveillance to Facilitate Patency

13.4 There is inadequate evidence for KDOQI to make a recommendation on routine AVF surveillance by measuring access blood flow, pressure monitoring, or imaging for stenosis, that is additional to routine clinical monitoring, to improve access patency.

Note: In other words, monitoring of vascular access is primary, while surveillance findings are supplementary, and action should not be based solely on surveillance findings.

KDOQI
KIDNEY DISEASE OUTCOMES QUALITY INITIATIVE
National Kidney Foundation

Sorveglianza protesi AV

Surveillance to Facilitate Patency

13.5 KDOQI does not suggest routine AVG surveillance by measuring access blood flow, pressure monitoring, or imaging for stenosis, that is additional to regular clinical monitoring, to improve AVG patency. (Conditional Recommendation, Low Quality of Evidence)

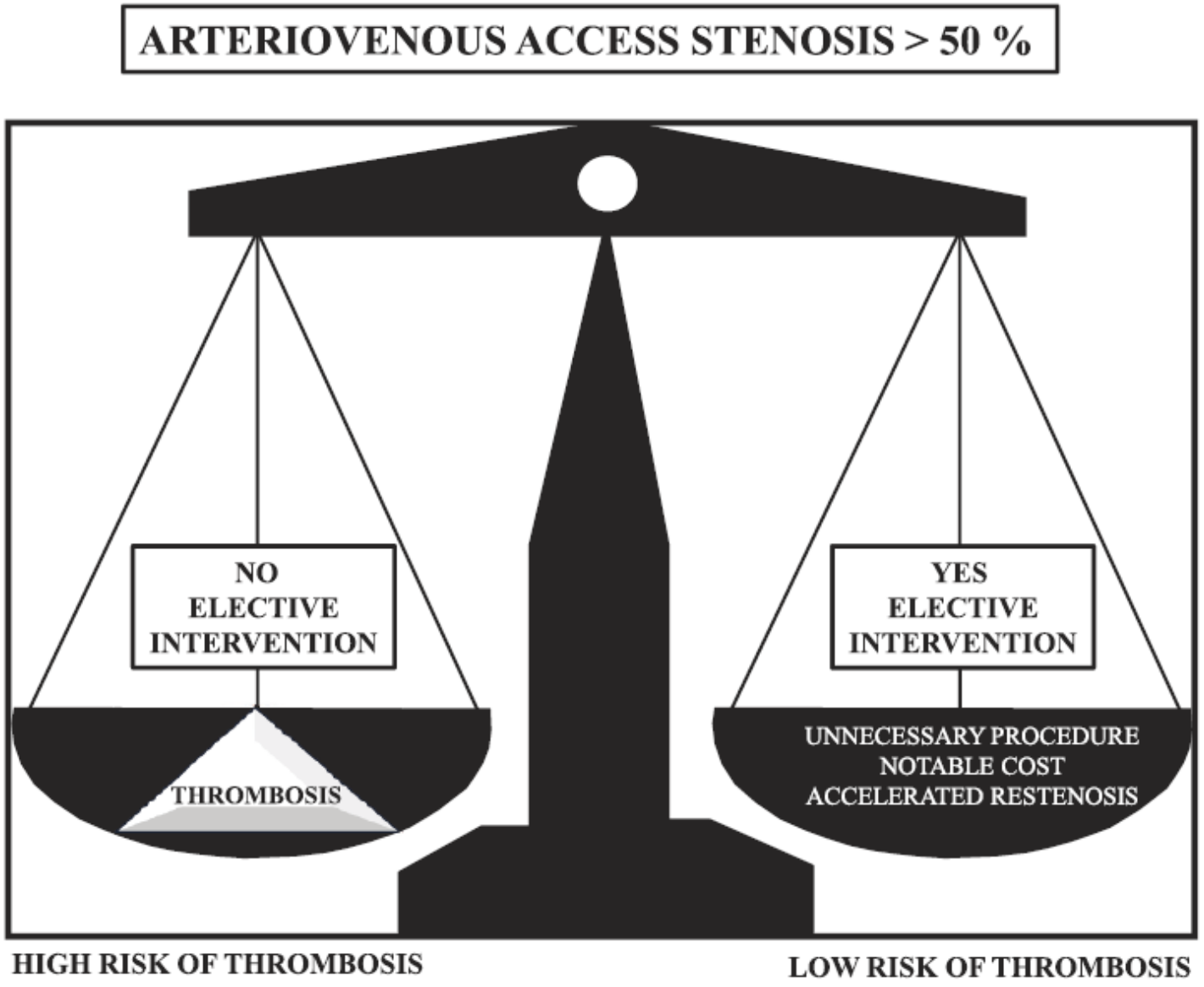
Note: In other words, monitoring of vascular access is primary, while surveillance findings are supplementary, and action should not be based solely on surveillance findings.

NEFROLOGIA 2017; 37(Suppl 1):1-192

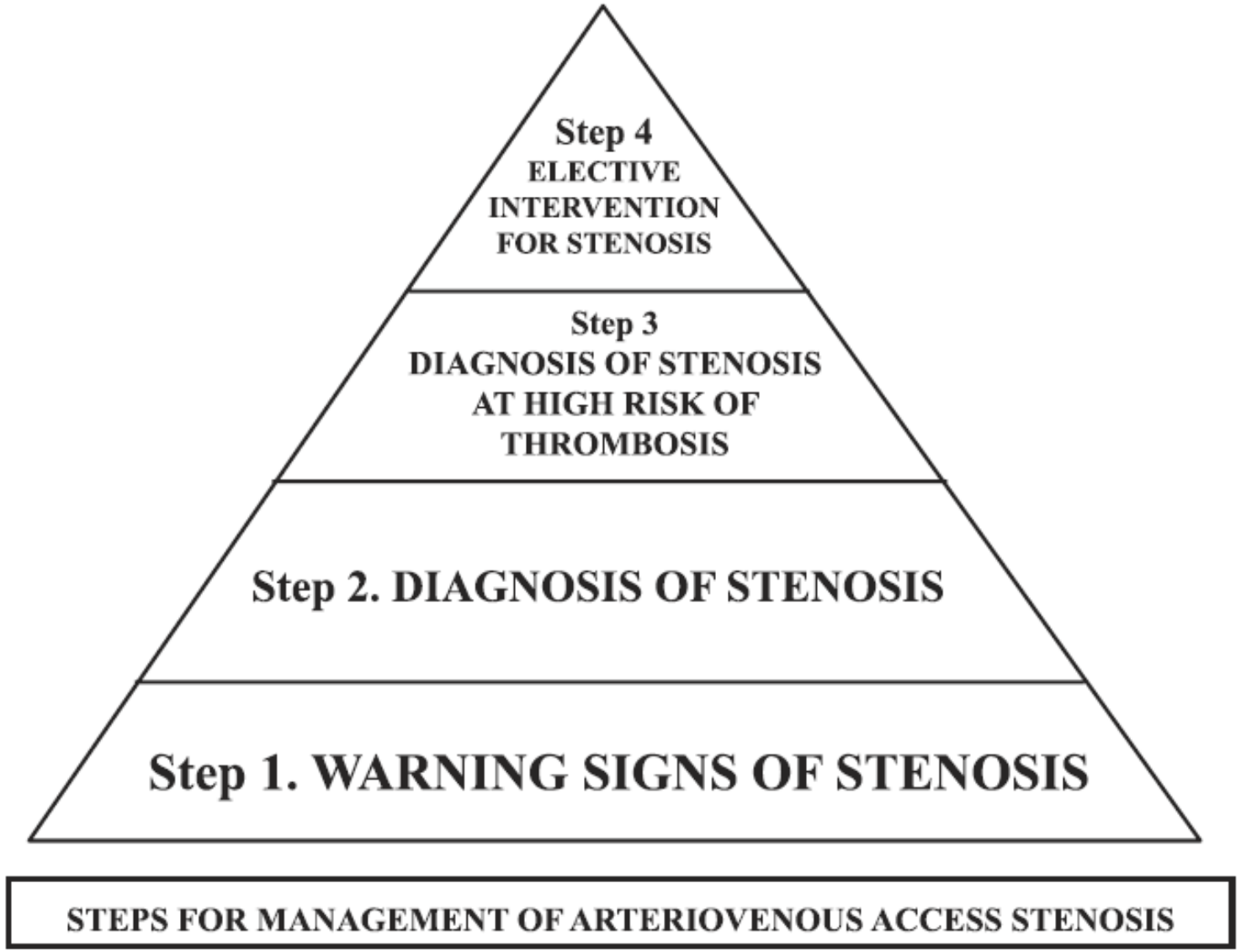
nefrología
Revista de la Sociedad Española de Nefrología
www.revistanefrologia.com

Spanish Clinical Guidelines on Vascular Access for Haemodialysis

José Ibeas[a,], Ramon Roca-Tey[b], Joaquín Vallespín[c], Teresa Moreno[d], Guillermo Moñux[e], Anna Martí-Monrós[f], José Luis del Pozo[g], Enrique Gruss[h], Manel Ramírez de Arellano[i], Néstor Fontseré[j], María Dolores Arenas[k], José Luis Merino[l], José García-Revillo[m], Pilar Caro[n], Cristina López-Espada[ñ], Antonio Giménez-Gaibar[c], Milagros Fernández-Lucas[o], Pablo Valdés[p], Fidel Fernández-Quesada[ñ], Natalia de la Fuente[q], David Hernán[r], Patricia Arribas[s], María Dolores Sánchez de la Nieta[t], María Teresa Martínez[u], Ángel Barba[q]; on behalf of the Spanish Multidisciplinary Group on Vascular Access (GEMAV)*



Ibeas J, Roca-Tey R, Vallespín J et al. Spanish Clinical Guidelines on Vascular Access for Haemodialysis. Nefrologia. 2017 Nov;37 Suppl 1:1-191.



GEMAV

Ibeas J, Roca-Tey R, Vallespín J et al. Spanish Clinical Guidelines on Vascular Access for Haemodialysis. Nefrologia. 2017 Nov;37 Suppl 1:1-191.

KDOQI
KIDNEY DISEASE OUTCOMES QUALITY INITIATIVE
National Kidney Foundation

Statement: General Treatment of Clinically Significant Stenosis or Thrombosed AV Access

15.4 **KDOQI considers it reasonable to use a careful individualized approach to the treatment of failing or thrombosed AVF and AVG (surgical or endovascular), based on the operators best clinical judgment and expertise considering the patient's ESKD Life-Plan. (Expert Opinion)**

Note: Consider both the patient's individual circumstances and the operator's clinical experience and expertise (ie, reasonable capabilities and limitations); preferably discussed and agreed on by the team managing the patient's vascular access, including but not limited to the patient and one or more of the following: nephrologist, interventionalist, surgeon, vascular access coordinator, cannulators (nurse or technician).

There is consensus that we have little evidence on the best treatment for AV access stenosis or thrombosis.
However, these are important recommendations/statements, giving us liberty to approach the patient with the best available tools in specific settings.

era edta ERBP
European Renal Best Practice

20. Chapter 12. Surgical and endovascular interventions for AV access thrombosis

20.1. Recommendations

We suggest the choice between surgical and endovascular interventions for AV access thrombosis be defined by the condition of the patient and their vascular access, as well as local expertise, as there is no evidence one approach improves outcomes more than any other. (2B)

Il cambio di strategia delle linee guida per gli accessi vascolari KDOQI 2019

CONTINUAL RE-EVALUATION AND PLANNING

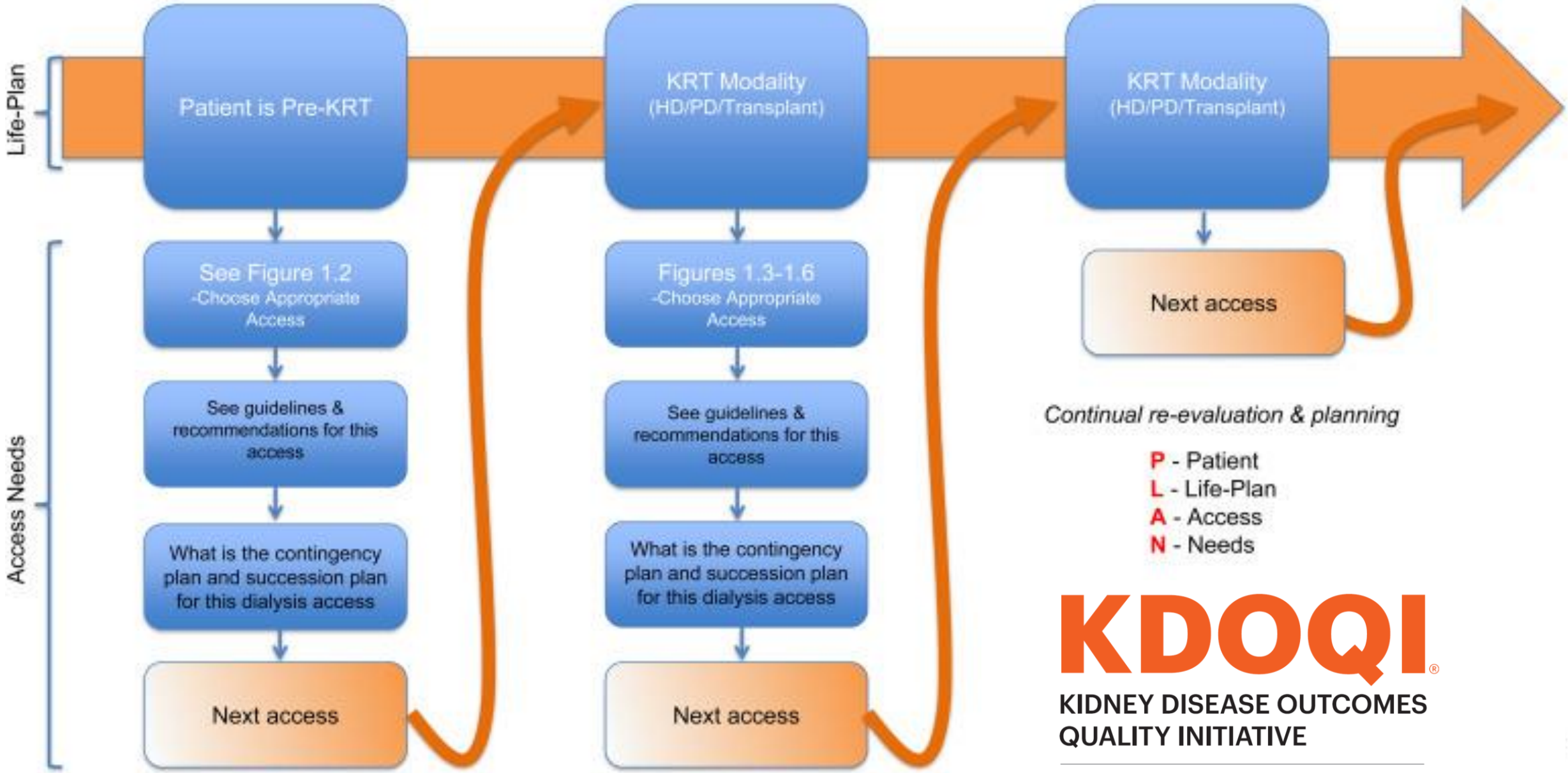
KDOQI
KIDNEY DISEASE OUTCOMES QUALITY INITIATIVE
National Kidney Foundation

P - Patient
L - Life-Plan
A - Access
N - Needs

From «Fistula First» to «Choose the appropriate access»

- **ESKD Life-Plan:** The individualized set of kidney replacement modalities to sustain a patient's life with ESKD
- **Contingency plan:** The plan of remedial measures for the vascular access anticipated problems
- **Succession plan:** Thoughtful planning for the next dialysis access before the current access is even created, and revisited before it fails, that considers the patient's ESKD Life-Plan

ESKD Life-Plan and Associated Access Needs: *What's the PLAN?*



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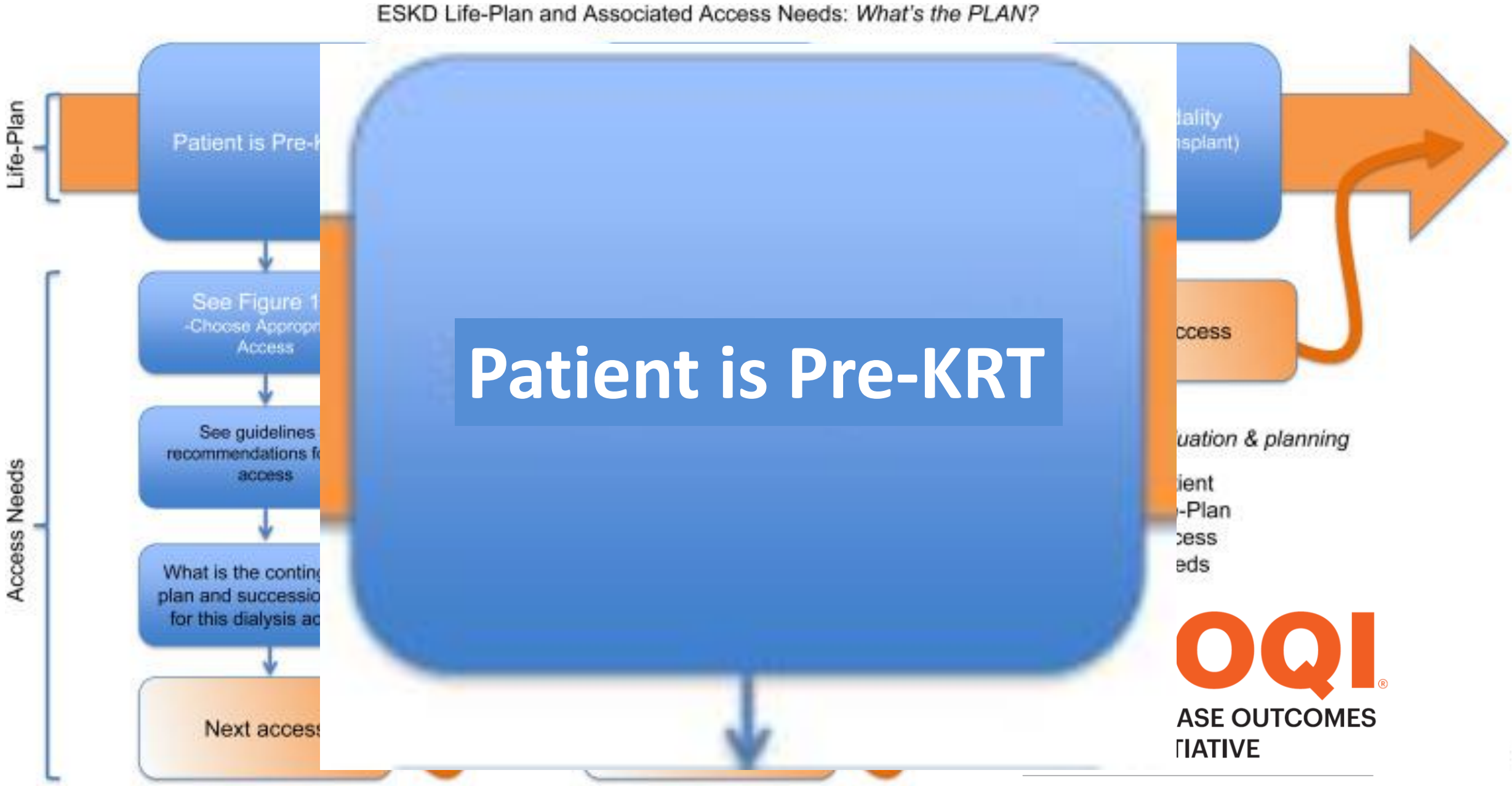
National Kidney Foundation



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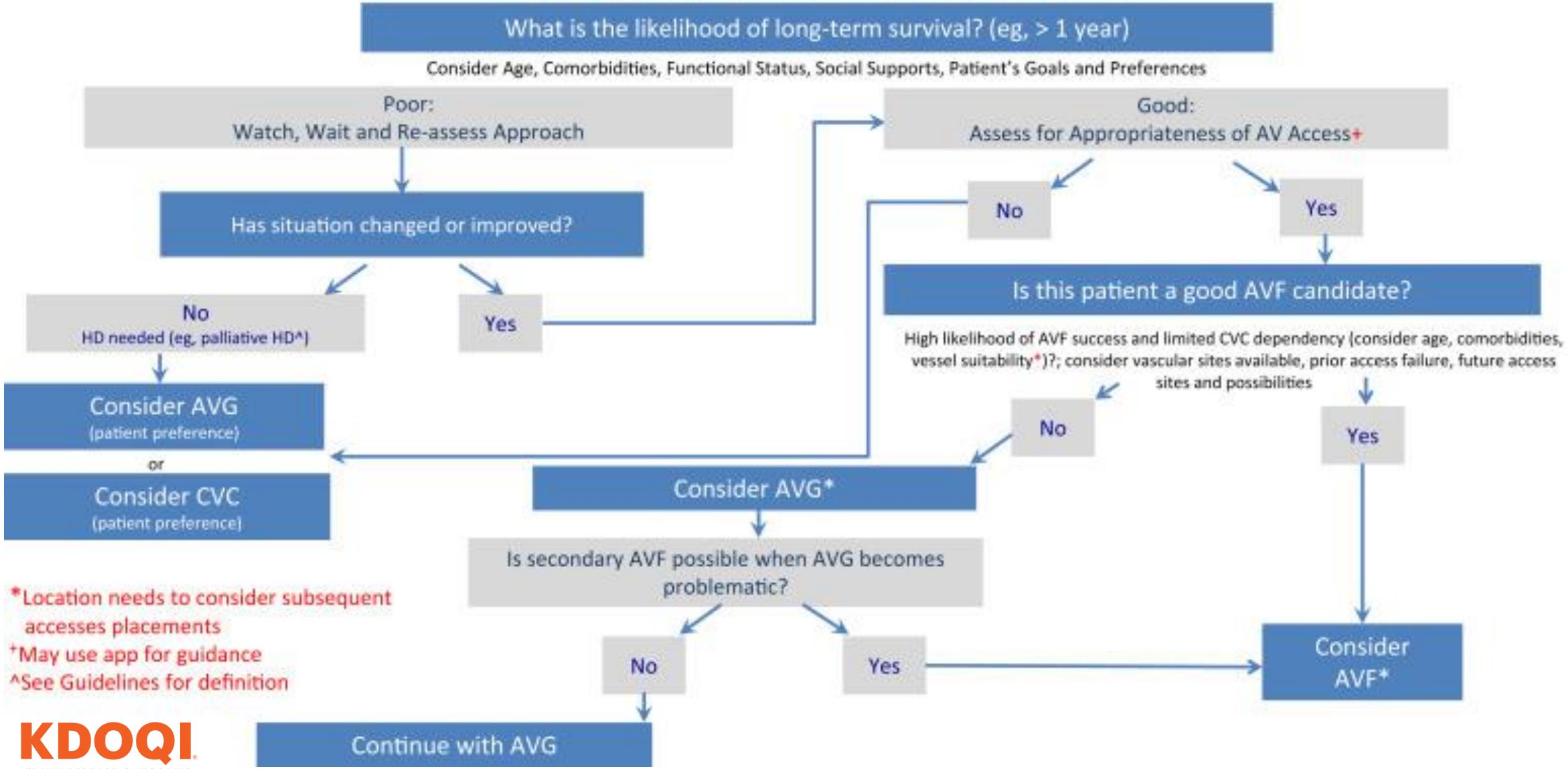
The Pre-KRT Patient Being Considered for Hemodialysis



*Location needs to consider subsequent accesses placements
+May use app for guidance
^See Guidelines for definition

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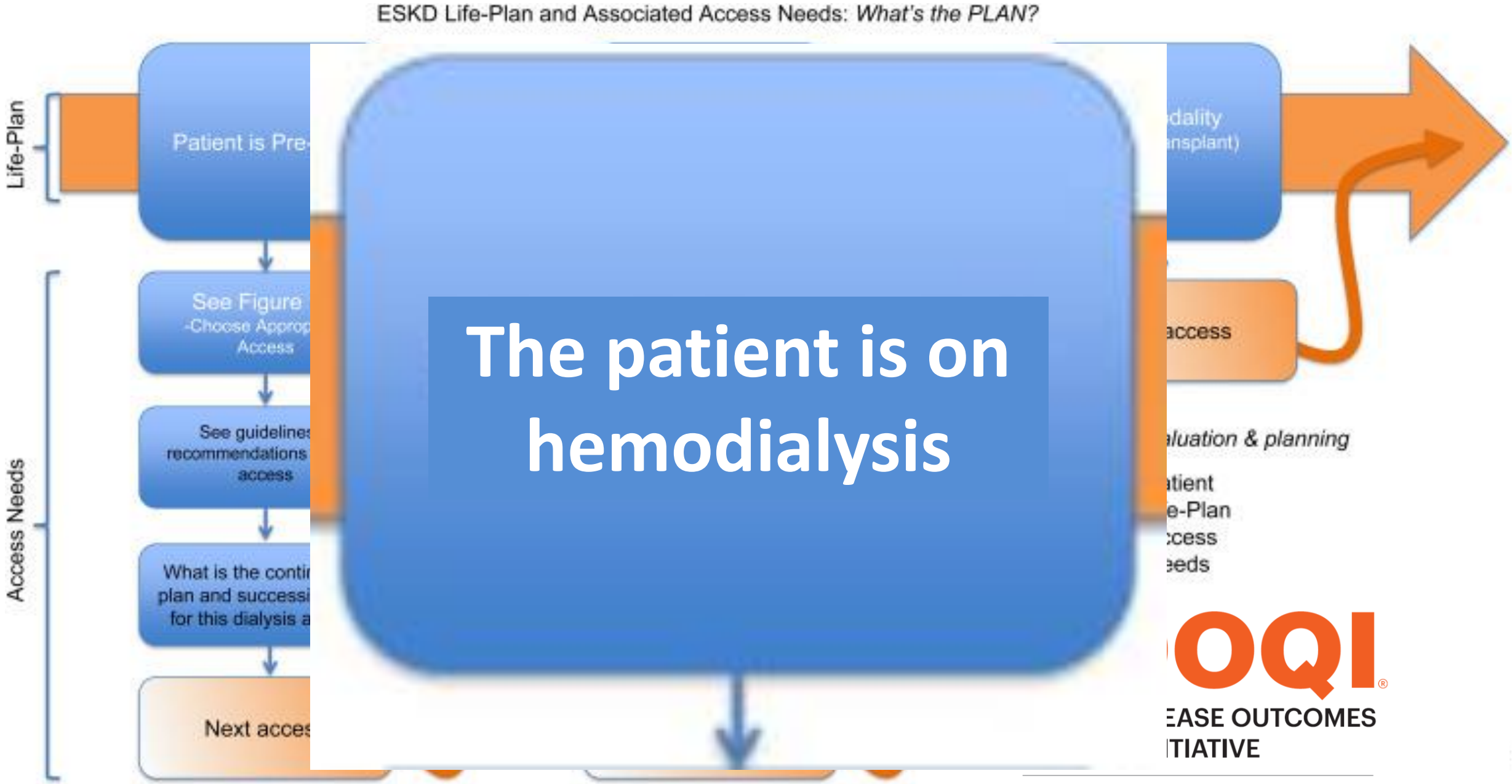

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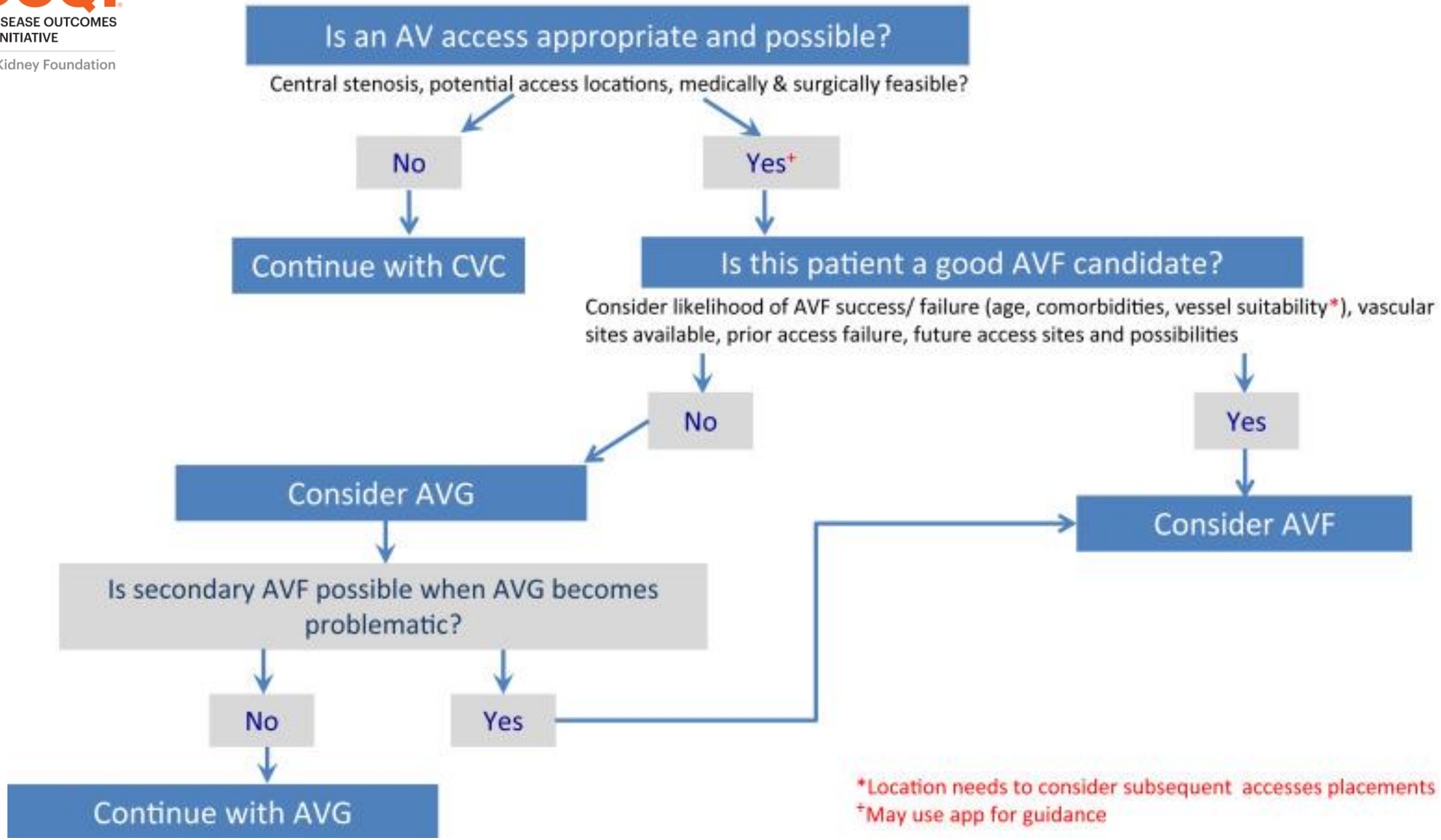
The Patient Is Already on Hemodialysis With a CVC



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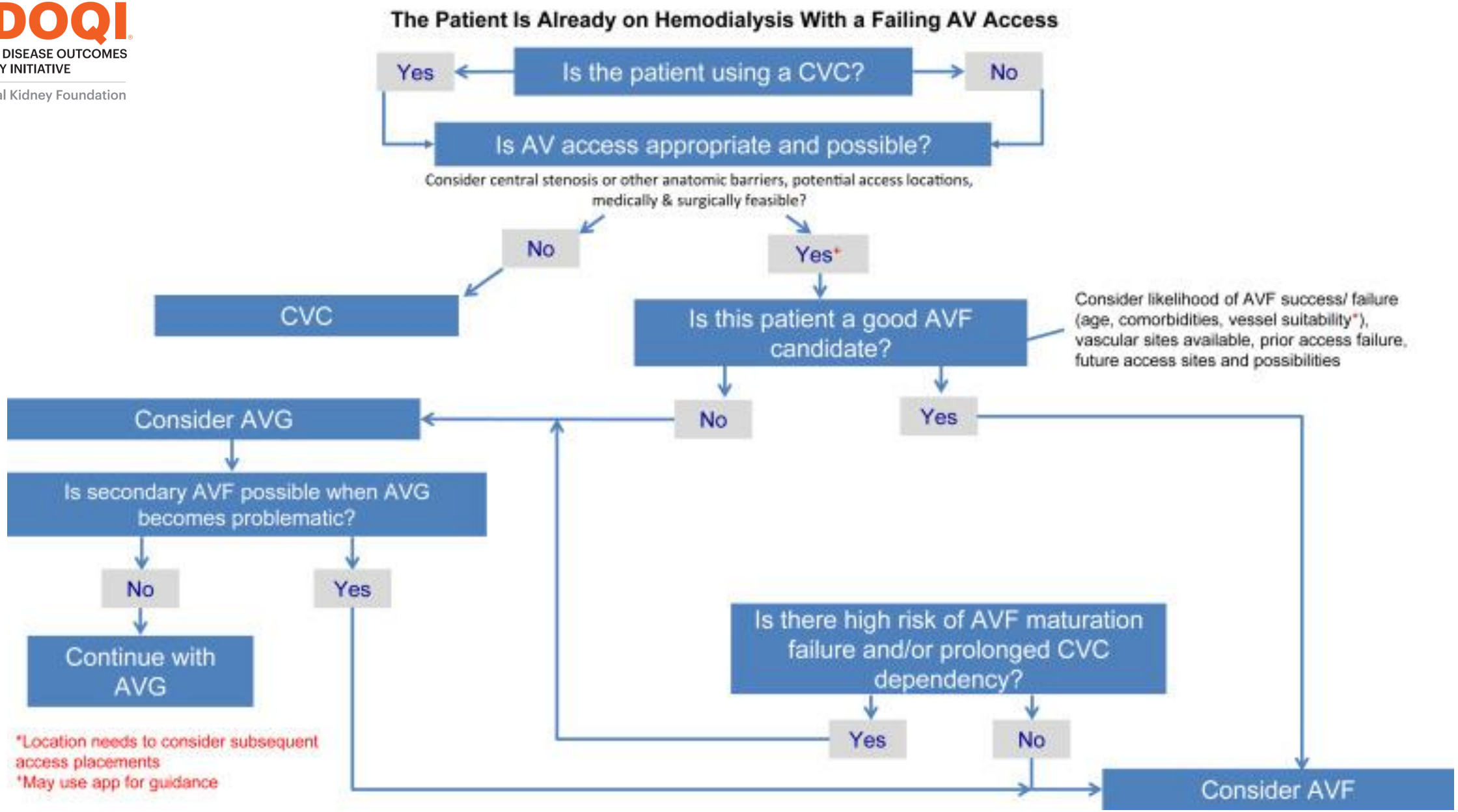

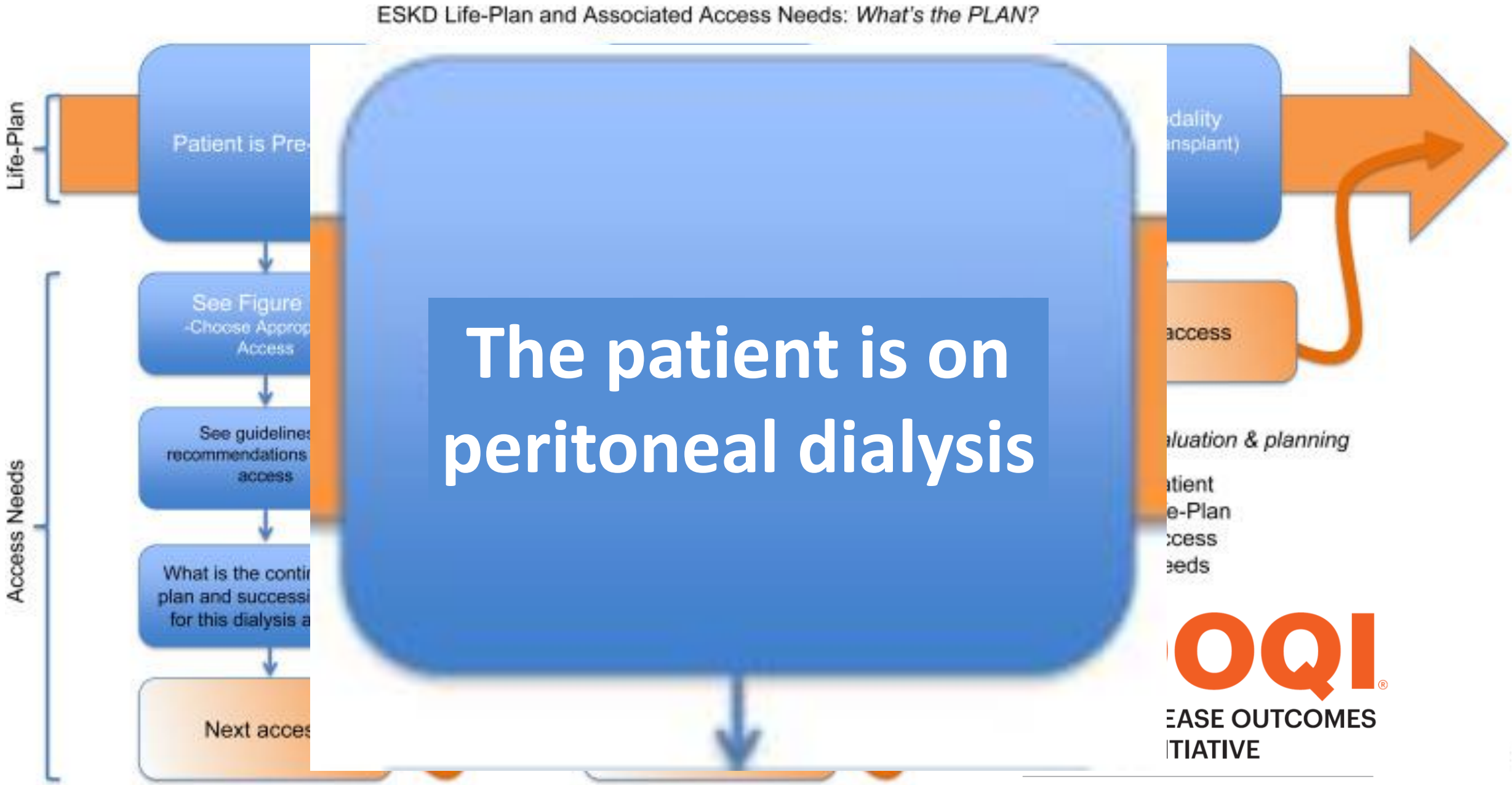

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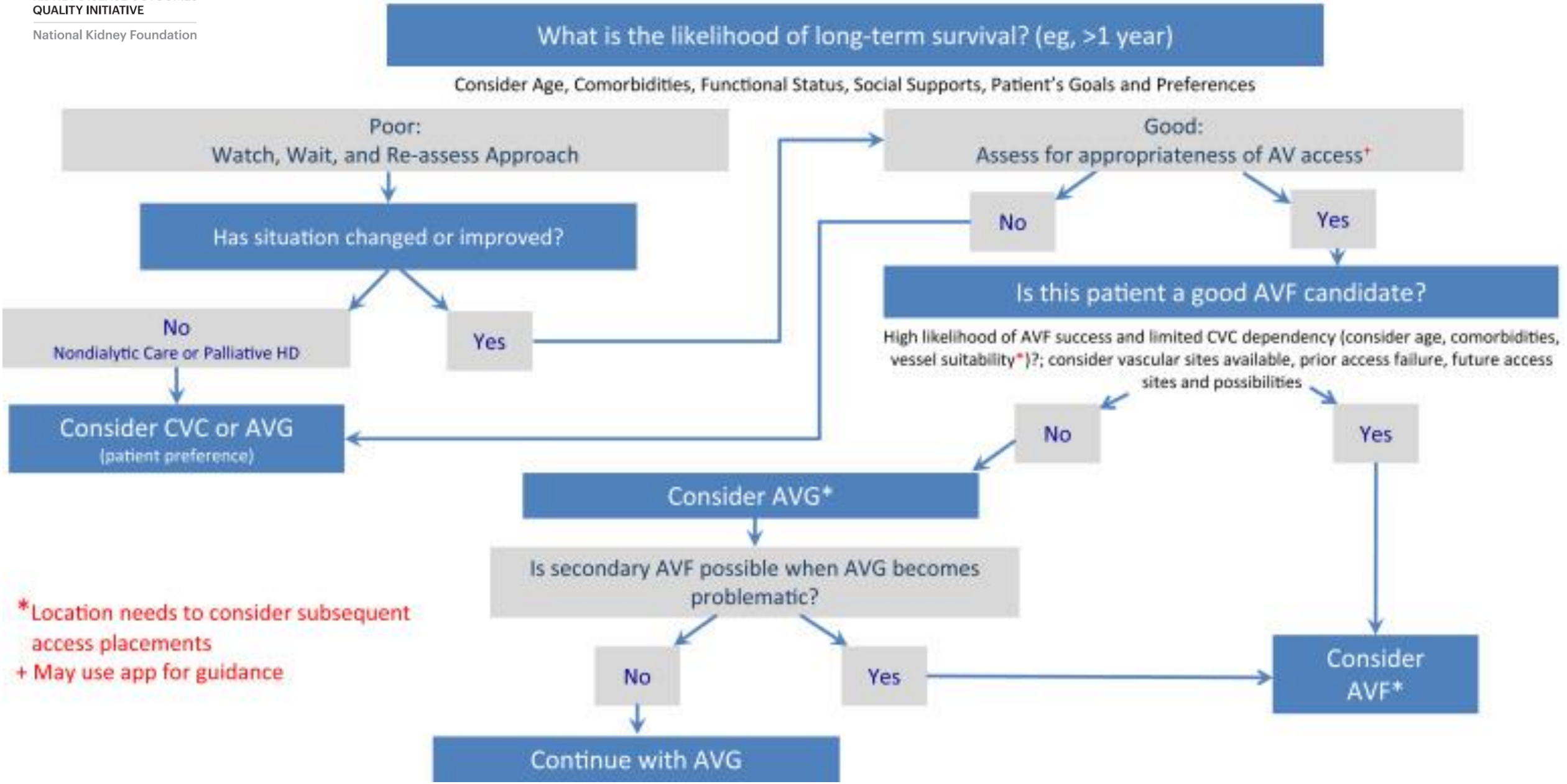
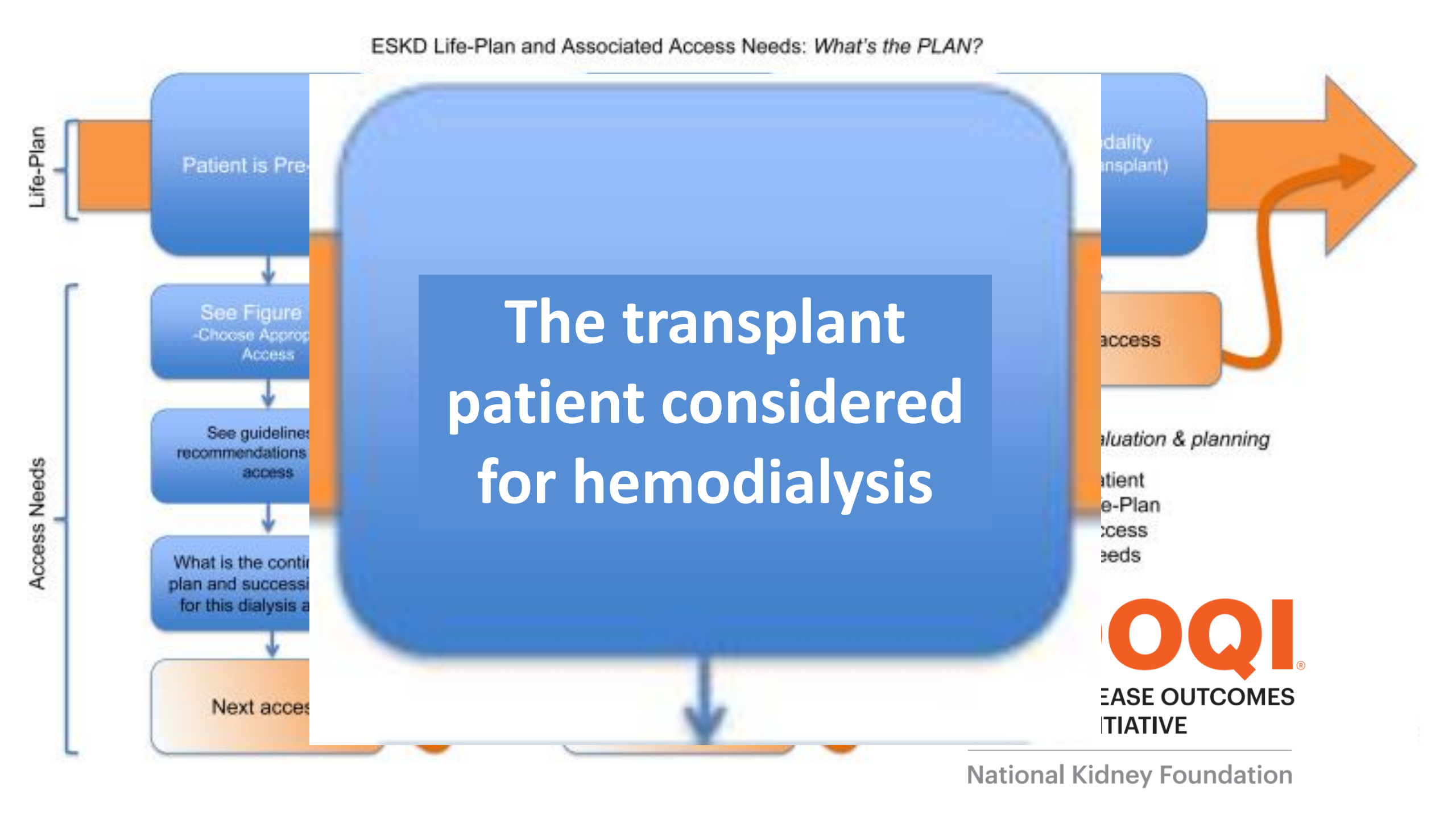
The Peritoneal Dialysis Patient is Being Considered for HD (See Table 6.1)




ESKD Life-Plan and Associated Access Needs: What's the PLAN?
Life-Plan
Access Needs
Patient is Pre-
See Figure
-Choose Approp
Access
See guidelines
recommendations
access
What is the conti
plan and successi
for this dialysis a
Next acces
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The transplant patient considered for hemodialysis
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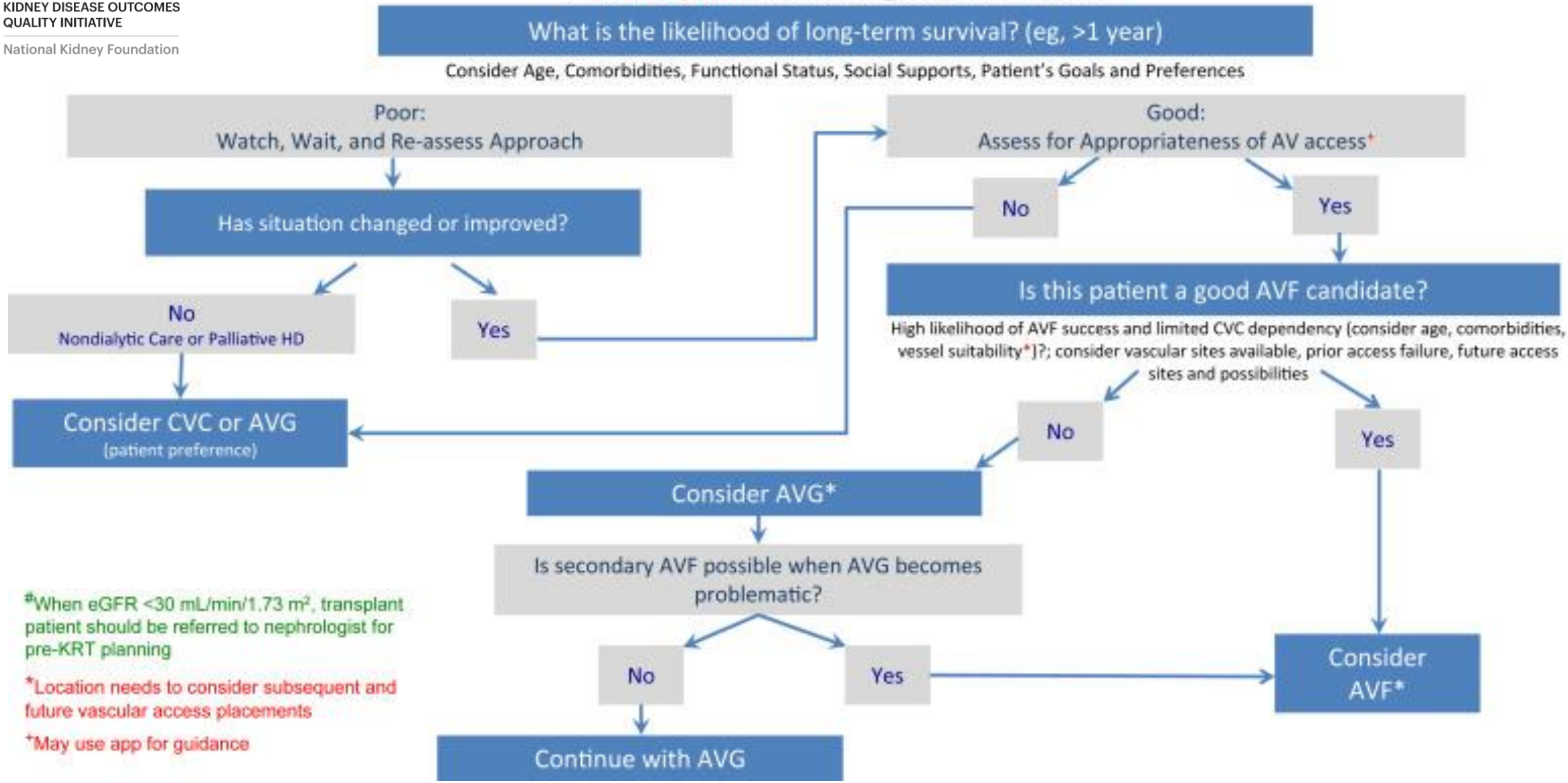
The Transplant Patient Being Considered for HD#

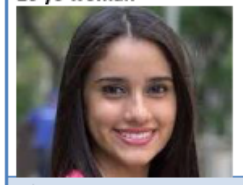


#When eGFR <30 mL/min/1.73 m², transplant patient should be referred to nephrologist for pre-KRT planning

*Location needs to consider subsequent and future vascular access placements

+May use app for guidance

K-DOQI ESKD Life-Plan case examples (patient friendly)

Case	Description	ESKD Life-Plan Modality Choice	Dialysis Access	Comments
14 yo girl 	Congenital cause of kidney damage, CKD nondialysis (eGFR 22 mL/min) has living donor for transplant, active – wants to be a teacher, right handed	1. Living donor transplant 2. PD 3. Home NHD	1. Transplant - NA 2. PD catheter 3. RC-AVF (left)	• Follow closely, long life anticipated • Flexibility required - Life-Plan may change • Life-Plan must consider multiple modalities and optimize dialysis access
26 yo woman 	GN, on HD; failed PD with temporary CVC, has potential living donors, actively working during day, R hand dominant	1. Home NHD 2. Transplant	1. RC-AVF (left) 2. BC-AVF (left)	Anticipating patient will get transplant – reassess annually for change in Life-Plan and AV access needs
48 yo man 	DM, HTN, AFib, obese. Copes poorly and non-adherent to medical management and presented needing to urgently start HD, works in outdoor maintenance, L handed	1. IC-HD 2. Transplant wait list 3. PD may be possible later	1. Early cannulation forearm loop graft (right) 2. BC-AVF 3. PD catheter	IC-HD most appropriate; poor self care makes patient poor home PD or HD candidate – may change over time – reassessment necessary
64 yo man 	HTN, PCKD; ESKD on HD x7 years; R handed; Jehovah witness; sudden loss of RC-AVF (left)	1. IC-HD 2. PD may be possible	1. CVC (left, IJ) 2. BC-AVF (R) 3. PD catheter	Transplant not an option due to personal reasons; continue to preserve site for future HD access; patient reluctant to consider PD due to poor home situation
77 yo woman 	Frail, DM, CAD, PVD, urgently started dialysis, with CVC, lives alone, R handed	1. IC-HD 2. PD may be possible	1. BC-AVF (left) 2. Upper arm graft (left) 3. PD catheter	Patient likely has limited life expectancy; focus on AV access and limiting CVC dependency vs preserving sites for future access
88 yo man 	Palliative patient and very frail but still enjoys time with family	1. IC-HD	1. CVC (right IJ)	Patient preference for CVC vs graft for palliative patients

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K-DOQI ESKD Life-Plan case examples (patient friendly)

Case	Description	ESKD Life-Plan Modality Choice	Dialysis Access	Comments
14 yo girl 	Congenital cause of kidney damage, CKD nondialysis (eGFR 22 mL/min) has living donor for transplant, active – wants to be a teacher, right handed	1. Living donor transplant 2. PD 3. Home NHD	1. Transplant - NA 2. PD catheter 3. RC-AVF (left)	• Follow closely, long life anticipated • Flexibility required - Life-Plan may change • Life-Plan must consider multiple modalities and optimize dialysis access
26 yo woman 	GN, on HD; failed PD with temporary CVC, has potential living donors, actively working during day, R hand dominant	1. Home NHD 2. Transplant	1. RC-AVF (left) 2. BC-AVF (left)	Anticipating patient will get transplant – reassess annually for change in Life-Plan and AV access needs

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K-DOQI ESKD Life-Plan case examples (patient friendly)

Case	Description	ESKD Life-Plan Modality Choice	Dialysis Access	Comments
48 yo man 	DM, HTN, AFib, obese. Copes poorly and non-adherent to medical management and presented needing to urgently start HD, works in outdoor maintenance, L handed	1. IC-HD 2. Transplant wait list 3. PD may be possible later	1. Early cannulation forearm loop graft (right) 2. BC-AVF 3. PD catheter	IC-HD most appropriate; poor self care makes patient poor home PD or HD candidate – may change over time – reassessment necessary
64 yo man 	HTN, PCKD; ESKD on HD x7 years; R handed; Jehovah witness; sudden loss of RC-AVF (left)	1. IC-HD 2. PD may be possible	1. CVC (left, IJ) 2. BC-AVF (R) 3. PD catheter	Transplant not an option due to personal reasons; continue to preserve site for future HD access; patient reluctant to consider PD due to poor home situation

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K-DOQI ESKD Life-Plan case examples (patient friendly)

Case	Description	ESKD Life-Plan Modality Choice	Dialysis Access	Comments
77 yo woman 	Frail, DM, CAD, PVD, urgently started dialysis, with CVC, lives alone, R handed	1. IC-HD 2. PD may be possible	1. BC-AVF (left) 2. Upper arm graft (left) 3. PD catheter	Patient likely has limited life expectancy; focus on AV access and limiting CVC dependency vs preserving sites for future access
88 yo man 	Palliative patient and very frail but still enjoys time with family	1. IC-HD **2. Assisted PD**	1. CVC (right IJ)	Patient preference for CVC vs graft for palliative patients

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Inserimento CVC: uso di ecoguida e fluoroscopia
Un esempio di raccomandazioni "aperte"

Guideline 9. CVC Insertion

Statements: Techniques and Other Considerations for Placement

9.1 **KDOQI recommends the use of image-guided CVC insertions to improve success of insertions.** ***(Conditional Recommendation, Moderate Quality of Evidence)***

9.2 **KDOQI considers it reasonable that if fluoroscopy is not used to insert a tunnelled CVC, alternative imaging is used to ensure that the CVC tip has been correctly placed.** ***(Expert Opinion)***

Trattamento delle infezioni da CVC

Management of the CVC in a Patient With a CVC-Related Infection

25.2 KDOQI considers it reasonable to have an individualized approach to the management of an infected catheter based on the patient's health, dialysis, and vascular access circumstances and should follow the detailed guidance. Options include CVC exchange via guidewire, CVC removal and reinsertion, CVC salvage, and concurrent antibiotic lock (particularly if the CVC is deemed to be the patient's final access). (*Expert Opinion*)

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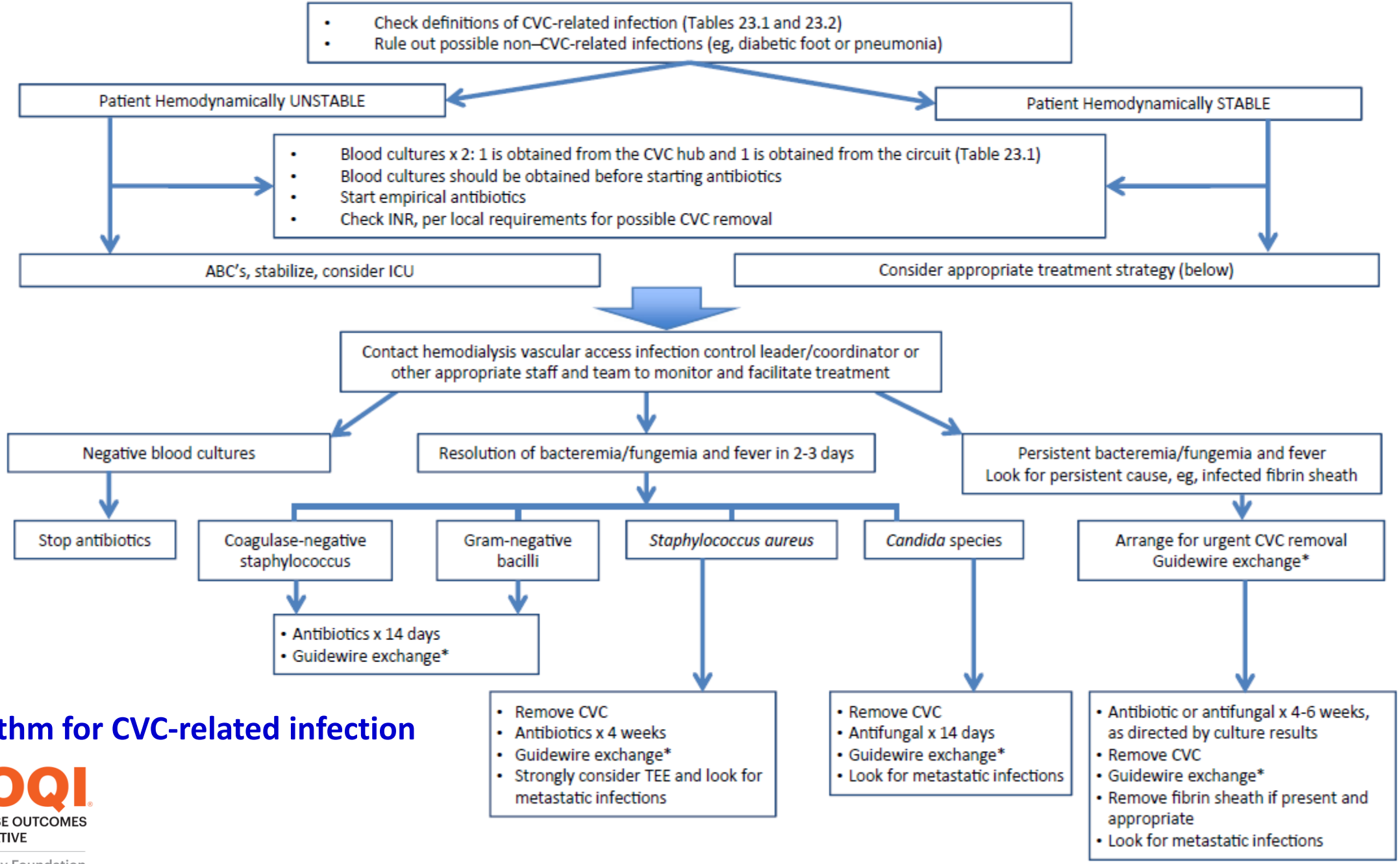

Algorithm for CVC-related infection

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Rimozione del CVC
Cambio CVC su guida vs cambio di vena

- If the CVC must be salvaged (eg, no other option, embedded, etc), antibiotic lock with concurrent systemic antibiotic may be considered.
- Guidewire exchange: If appropriate—that is, no purulence or other signs of infection at exit site or tunnel if exchanging over same site.
- For tunnel infections, if there is purulence or other signs of infection at exit site or tunnel, exchange may be possible over new noninvolved insertion site using the same side to preserve access.

Conclusioni

- **Abbiamo bisogno di linee guida per l'accesso vascolare? Sì, l'argomento è di grande rilevanza clinica per i pazienti, gli operatori sanitari e il personale sanitario.**
- **C'è consenso sul fatto che l'accesso vascolare sia un aspetto chiave della cura della dialisi, meritando lo sforzo di sviluppare e aggiornare le linee guida**
- **Lo sviluppo e l'aggiornamento di linee guida basate sull'evidenza è un processo lungo e difficile, che richiede grandi sforzi e la disponibilità di un team multidisciplinare di esperti clinici, di metodologi, con la partecipazione attiva di pazienti.**
- **La diffusione della conoscenza delle linee guida è un altro aspetto di grande importanza che incontra difficoltà**
- **Dobbiamo riconoscere che le linee guida basate sulla stessa letteratura preparate da diverse organizzazioni di paesi diversi potrebbero esprimere punti di vista diversi.**
- **In Italia, sono opportune linee guida nazionali che adeguino le informazioni e linee guida esistenti alla realtà locale, nel contesto del SSN e considerando le risorse disponibili**

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https://www.guidecortina.com