Deceased Donor Evaluation

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“May your choices reflect your *hopes*, not your *fears*”

- Nelson Mandela -

Outline

- Recent PMK data & Thai registry data
- Standard donor vs ECD
- Donor AKI
- KDPI (Original vs Thai) & application
- EPTS
- Other donor factors
- What is PMK approach?

PMK 2025 profile data

Variables	2025 Data
New cases in 2025 (N)	35 (**adult 32**, pediatric 3), ↑from 25 in 2024
Types of KT (N)	CDKT 31, LRKT 4 (pre-emptive 2)
Recipient age (Y)	47
Mean donor KDPI	59%
Donor with KDPI >85%	20%
Expanded criteria donor	48%
Mean deceased donor age (Y)	42.66
Donor resuscitation (hypotension, CPR)	88%, 14.8%
Donor with terminal SCr. >1.5 mg/dL	**25.9%**
Donor creatinine (terminal and best)	1.25, 0.73 mg/dL
Mean Recipient EPTS	48%
Recipient with PRA >50%	3%
DGF rate	**18%**

PMK 2025 outcome data

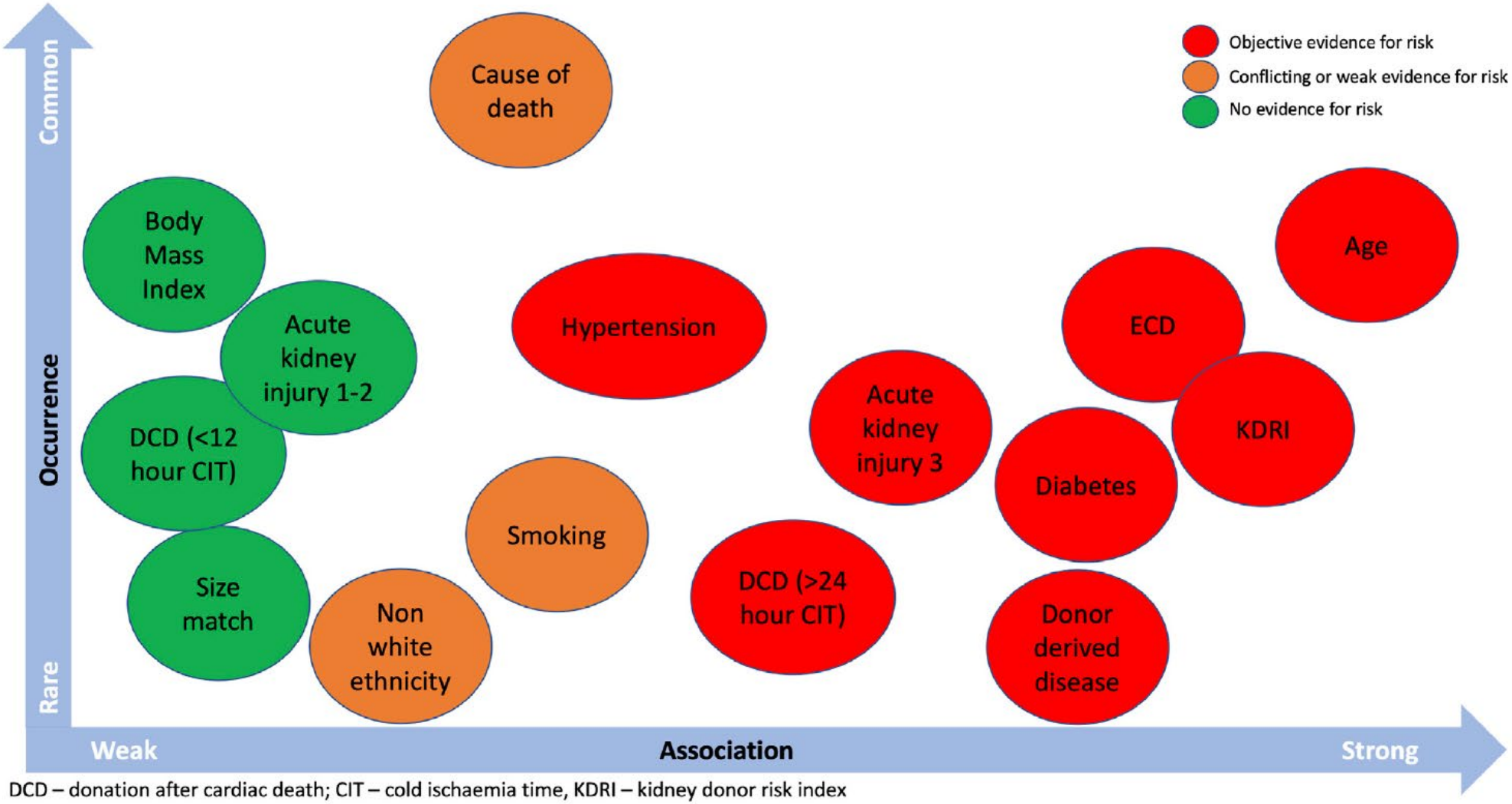
Variables	2025 Data
Mean length of stay	23 days
Cases with length of stay > 14 days	63%
Admission cost (baht)	Mean 390,092 Total 12,873,044
Rejection (Biopsy proven) rate	6%
Infection complication rate	51%
Surgical complication rate	27%
Readmission within 30 days rate	39%

NEPHROLOGY

Thai Transplant Registry Data 2025

Variables	2025 Data (PMK data)
Recipient age (Y)	47 (47)
PRA ≥50%	4.8%
Mean deceased donor age (Y)	39.7 (42.6)
Cause of brain death	Head trauma 47.8%, Stroke 42.7%
Donor creatinine (terminal, best)	1.18 mg/dL, 0.78 mg/dL (1.25, 0.73)
Donor with terminal creatinine >1.5 mg/dL	22.2% (25.9)
Donor resuscitation (hypotension, CPR)	76.5%, 16.4% (88, 14.8)
DGF rate	13.6% (18)
Serum creatinine at D/C (CDKT, LRKT)	1.99 mg/dL, 1.2 mg/dL

Donor characteristics and allograft outcomes



DCD – donation after cardiac death; CIT – cold ischaemia time, KDRI – kidney donor risk index

Sharif A. Transpl Int. 2022 Aug 25;35:10482.

Ideal deceased donor

"Donor age 10-39 years with terminal SCr ≤1.5 mg/dL without U/D HT and not dying from stroke"

+ non-cardiac death (brain death only)

Best outcome is expected from such donor
but results in "long waiting time" if we only accept such criteria

Port FK, et al. Transplantation. 2002 Nov 15;74(9):1281-6.
Rao PS, Ojo A. Clin J Am Soc Nephrol. 2009 Nov;4(11):1827-31.
Dare AJ, et al. Transplantation. 2014 Apr 27;97(8):797-807.

Expanded criteria donor

- **"≥1.7-fold (↑70%)** for **graft failure** compared with ***ideal*** **donor"**
- **Age ≥60 y** or **50-59 y** with **2/3** of **terminal SCr ≥1.5** mg/dL or U/D **HT** or **death from stroke**

How should we utilize the "expanded criteria donor"?

Port FK, et al. Transplantation. 2002 Nov 15;74(9):1281-6.
Merion RM, et al. JAMA. 2005 Dec 7;294(21):2726-33.
Pretagostini R, et al. Transplant Proc. 2009 May;41(4):1149-51.
Saidi RF, et al. Am J Transplant. 2007 Dec;7(12):2769-74.

Expanded criteria donor: outcomes

- Inferior graft survival & patient survival ***(compared to SCD)***
- ↑Infection, perioperative complication, rejection, DGF
- Improve survival ***(comparing with waiting list)*** after certain period (3.5 y) esp. those with ***age >40 y, HT, DM***, dialysis vintage > 3.7 y, low PRA, non-Hispanic
- ↑**short-term** (33 w) mortality **(comparing with waiting list)**
- If combining pre-formed DSA or severe AKI ***worsening*** graft survival. ***Improve*** graft outcome if CIT <12 h

Port FK, et al. Transplantation. 2002 Nov 15;74(9):1281-6.
Ma MK, et al. Clin J Am Soc Nephrol. 2016 Jan 7;11(1):128-36.
Merion RM, et al. JAMA. 2005 Dec 7;294(21):2726-33.
Pretagostini R, et al. Transplant Proc. 2009 May;41(4):1149-51.
Pascual J, et al. Am J Kidney Dis. 2008 Sep;52(3):553-86.

ECDs: how should we utilize them?

- **ECD is not a contraindication!**
- **Individualize is crucial: patient with DM, age > 40 y, long dialysis vintage, non-severe AKI**
- **Minimize other risks: CIT <12 h (if possible), low PRA or absence of pre-formed DSA is preferred**
- **Age is an essential factor (>65 y is concerning)**
- **Inform consent + advice is mandatory**

However, ECD or SCD is a dichotomize process which lacks detail

Port FK, et al. Transplantation. 2002 Nov 15;74(9):1281-6.
Ma MK, et al. Clin J Am Soc Nephrol. 2016 Jan 7;11(1):128-36.
Merion RM, et al. JAMA. 2005 Dec 7;294(21):2726-33.
Pretagostini R, et al. Transplant Proc. 2009 May;41(4):1149-51.
Pascual J, et al. Am J Kidney Dis. 2008 Sep;52(3):553-86.

Donor AKI & outcomes

- ↑ DGF in most studies with ↑hospital stays & cost
- Overall, *no effect* on graft survival, patient survival or long-term graft function (only short-term 3 months) regardless of stage. No association with rejection.
- BUT...in *AKI stage 3 (esp. persistent)* may result in ↓ graft survival HR 1.8 ± patient survival HR 2.2 (compared with recovered AKI)
- BUT….in *high-risk group (KDPI >85%)* AKI stage 2-3 results in increased death-censored graft loss HR 2.4

Larpparisuth N, et al. Sci Rep. 2023 Nov 22;13(1):20492.
Yaffe HC, et al. Transplantation. 2024 Jun 1;108(6):1283-1295.
Na O, et al. Sci Rep. 2026 Jan 23;16(1):6071.
Park WY, et al. Kidney Res Clin Pract. 2021 Mar;40(1):162-174.
Scurt FG, et al. Kidney360. 2024 Jul 1;5(7):1012-1031.

Donor AKI: how to utilize

- **Donor AKI is not a contraindication!**
- **AKI stage 3 especially *persistent* AKI is concerning (significant patient and graft outcome)**
- **AKI stage 2-3 in high-risk patient (KDPI >80-85%) should be discussed with patient**
- **Most would discard if terminal SCr ≥4 mg/dL or oliguria ≥ 24 h**

Larpparisuth N, et al. Sci Rep. 2023 Nov 22;13(1):20492.
Yaffe HC, et al. Transplantation. 2024 Jun 1;108(6):1283-1295.
Na O, et al. Sci Rep. 2026 Jan 23;16(1):6071.
Park WY, et al. Kidney Res Clin Pract. 2021 Mar;40(1):162-174.
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What is KDPI?

- Numerical indicator of quality of ***deceased*** donor graft quality ***relative to other*** recovered kidneys (last year)
- Kidney from Ben's KDPI is 70% = estimated risk of kidney allograft failure from Ben's kidney is higher than 69% of donated kidney in last year
- KDPI is derived from KDRI (Kidney Donor Risk Index), raw KDRI is calculated from **8(10) *donor-only* factors**[1] then scaled for "median donor" of last year data = $_{scaled}$KDRI = relative risk of kidney failure which is then mapping as **percentile and calculated as KDPI**

*Raw KDRI is a relative risk of post-transplant kidney failure compared to non-diabetes age 40 y

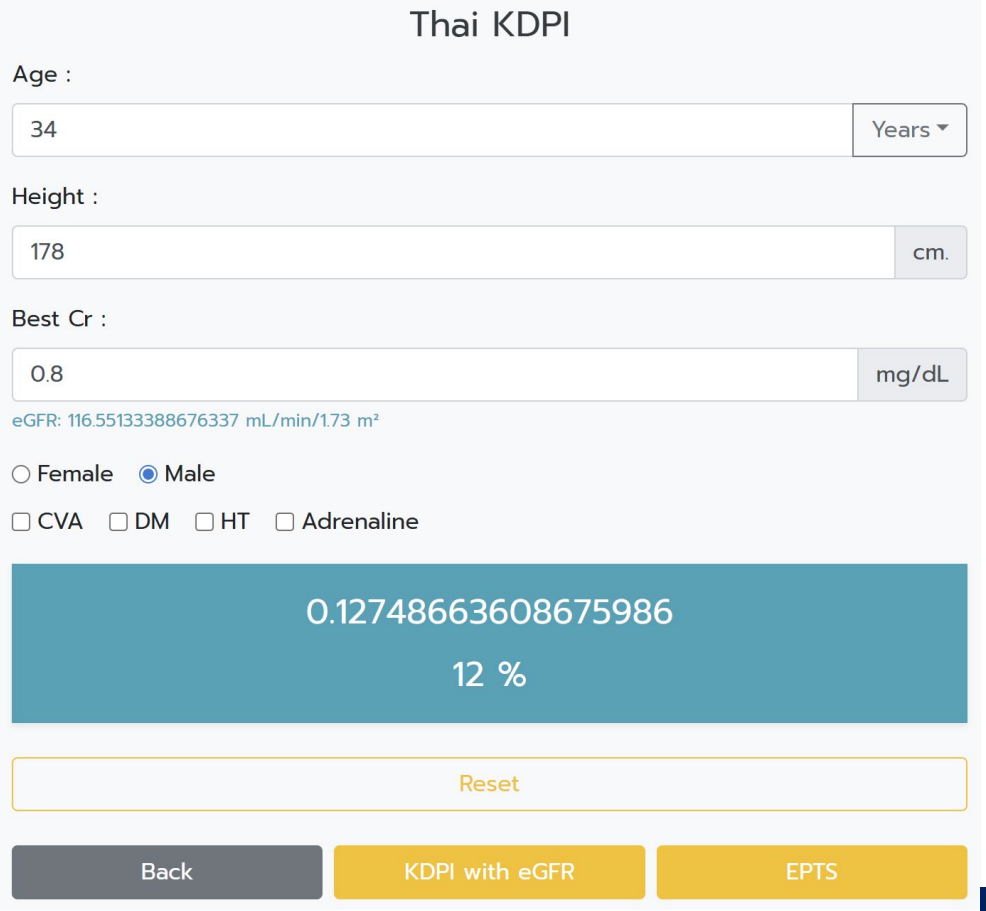
1.Rao PS, et al. Transplantation. 2009 Jul 27;88(2):231-6.
Molnar MZ, et al. Transplantation. 2017 Jun;101(6):1353-1364.

KDPI approach/common pitfall

- KDPI is only accounted for ***donor's factor*** (independent of transplant procedure or candidate factor) and ***fairly*** predicts allograft failure with C-statistics ≈ 0.6X and ***should not be used as the sole indicator to accept or discard*** the donated kidney
- Approved only in deceased donor & single kidney allograft
- Use only in **adult recipient** but valid for **pediatric donor kidney**
- KDPI alone cannot quantify a risk of graft failure in particular time window (only shift in graph of graft failure risk over time)
- If OPTN KDPI = use **terminal** SCr. Thai KDPI = use **best** SCr.
- Factor that is **already in KDPI *should not*** **be used to differentiate** the quality of donated kidney *with the same KDPI*

Rao PS, et al. Transplantation. 2009 Jul 27;88(2):231-6.
Molnar MZ, et al. Transplantation. 2017 Jun;101(6):1353-1364.

Thai KDPI



https://www.thai-kdpi-epts.org/kdpi-cr

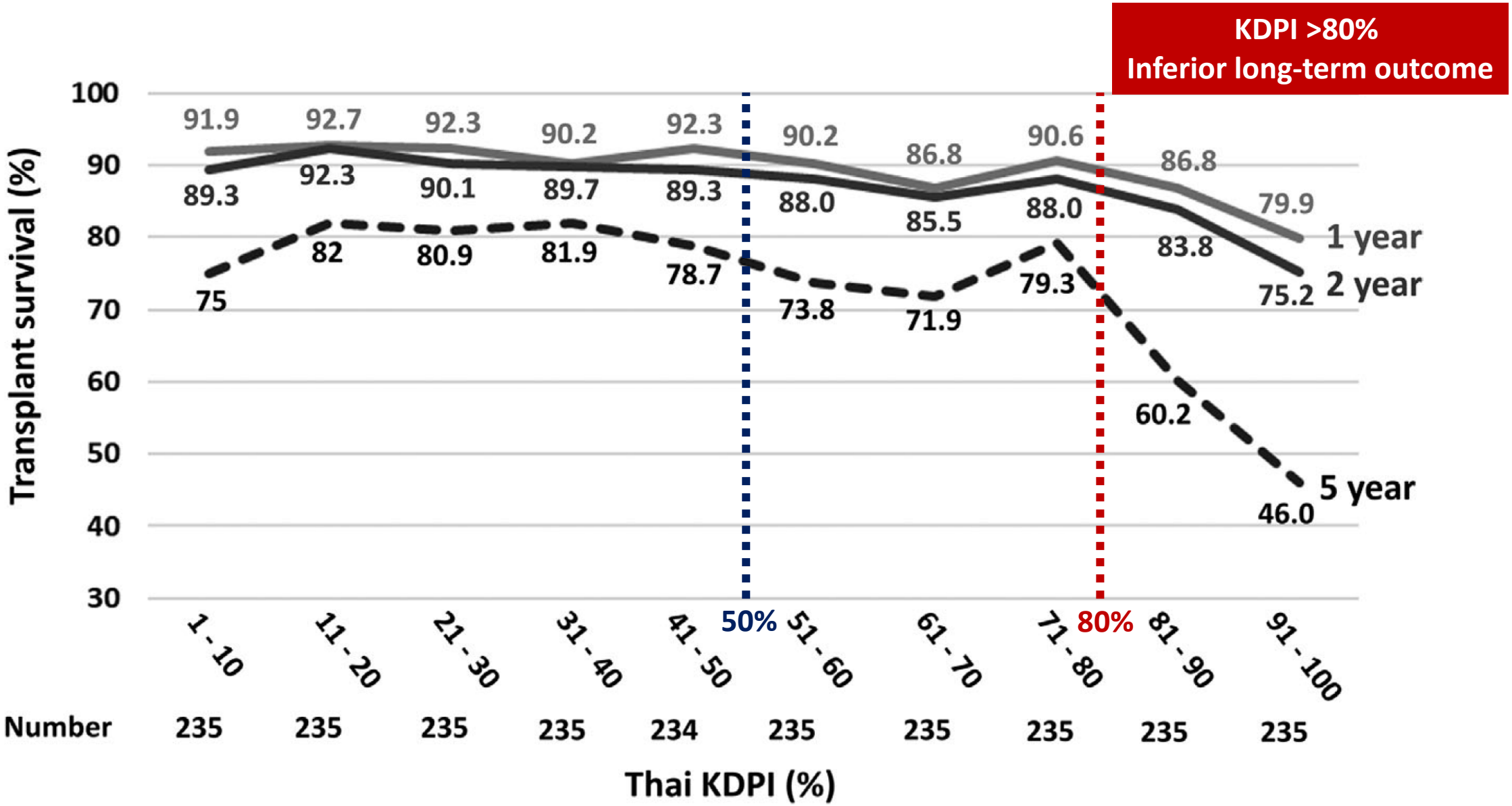
- Validated models from Thai population and compared with US model
- Detailed model[1] modestly superior to US model (0.69 & 0.64 for DCGS and PS vs 0.55 & 0.58 for C-statistics)
- Simpler model[2] equally predicted outcome (0.55-0.6) comparing with US model

Despite local validation, accuracy is *fairly* acceptable

DCGS; dead-censored graft survival, PS; patient survival

1.Udomkarnjananun S,et al. Transplantation. 2020 May;104(5):1048-1057.
2.Larpparisuth N, et al. Clin Transplant. 2022 Mar;36(3):e14560.

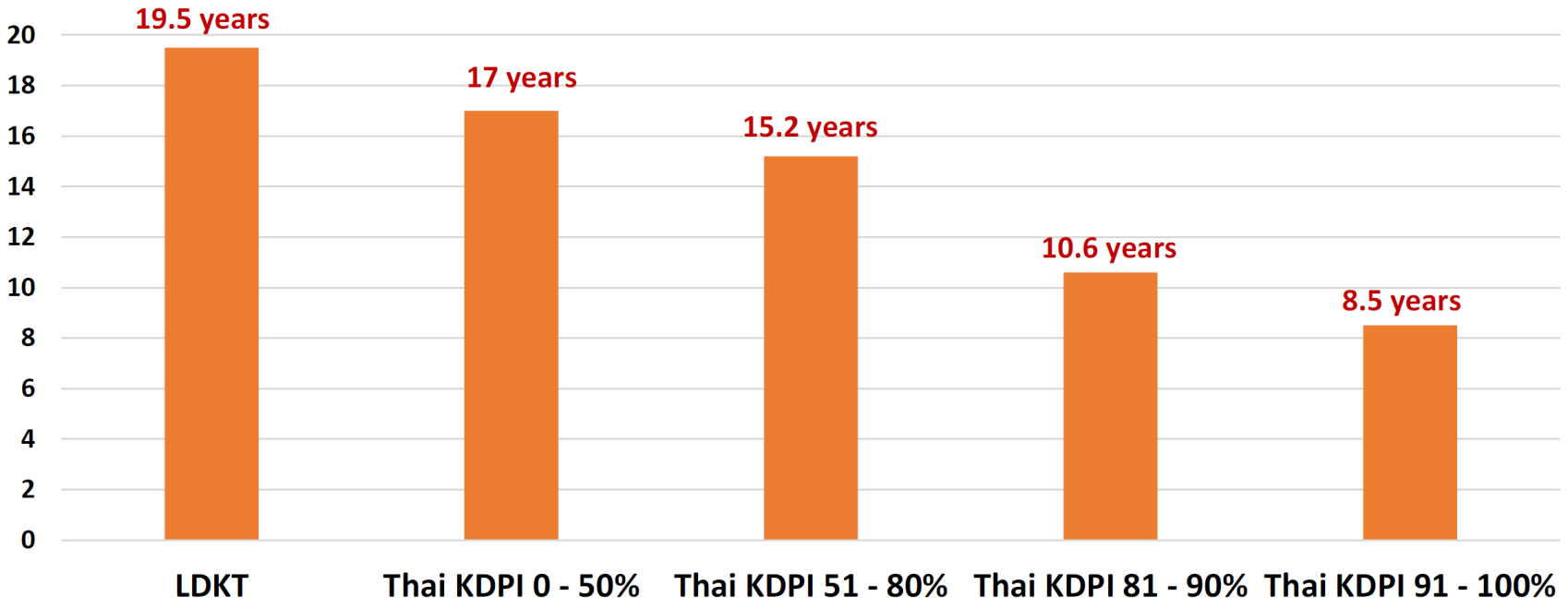
Thai KDPI and outcomes



Larpparisuth N, et al. Clin Transplant. 2022 Mar;36(3):e14560.

Thai KDPI and outcomes

Estimated Graft Half Lives (Years):
Thai Transplant Registry 2001 - 2019

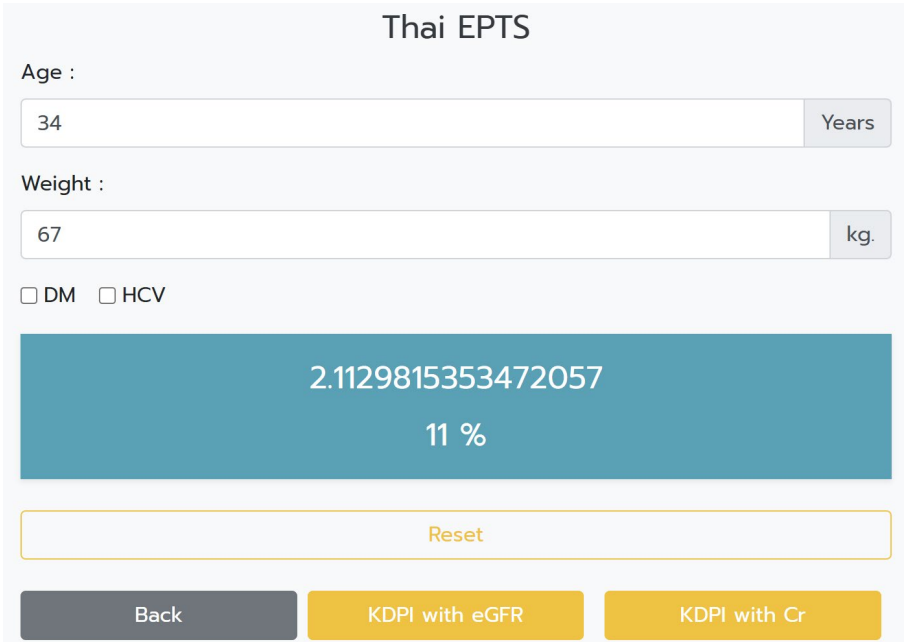


Incidence of DGF According to Thai KDPI

Thai KDPI	DGF rate
1-50%	35.3%
81-90%	43.3%
91-100%	50.7%

Adapted from Nuttasith Larpparisuth M.D. Presentation in Thai Transplant Society Meeting 2026

EPTS: recipient side



https://www.thai-kdpi-epts.org/kdpi-cr

- Estimated post-transplant survival (EPTS)
- Estimation of ***candidate's survival*** after receiving kidney allograft
- Utilizing of "candidate parameters" to calculate *raw* EPTS (**↑EPTS α↑mortality**)
- 11% EPTS = candidate's *raw* EPTS is higher than 11% of entire candidate in recent year
- **OPTN** EPTS uses Age, Diabetes status, Prior SOT, and Duration of dialysis (for simplicity)
- **Thai** EPTS uses Age, Weight, Diabetes status, HCV status

However, currently Thai EPTS are not used in national allocation system

Larpparisuth N, et al. Clin Transplant. 2022 Mar;36(3):e14560.

Matching KDPI & EPTS

- Currently, Thai national allocation system ***does not*** utilize KDPI & EPTS for ranking candidates
- Due to data of KDPI & EPTS should be updated annually but updated data is lacked in Thailand
- From OPTN, if donor's ***KDPI is ≤20%*** then candidates with ***EPTS ≤20% are prioritized first*** to emphasize on concept of "longevity matching" (good kidney should go to those who is expected to survive longer)
- We (PMK) may use EPTS data for ***counseling*** or selecting candidate from ***"in-house donor"***

OPTN policies 2025
Larpparisuth N, et al. Clin Transplant. 2022 Mar;36(3):e14560.

Other factors to be considered

- Infection (donor)
- Kidney lesion (cyst, obstruction, mass)
- Surgical problems (vascular/trauma)
- Expected cold ischemic time
- Recipients (immune & non-immune)
- Team

Infection

- Systemic chronic infection
- Systemic active (acute) infection
- Urinary tract infection

Consultation with ID (or hepatologist if Hepatitis virus) is crucial

Infection in donor

Infection	Accept	Conditions
HIV	X	-
HCV	✓	Consult GI + DAAs afterward
HBV	Depends	Discard if HBeAg positive/Acute HBV infection
Syphilis (latent)*	✓	Consult ID + Penicillin course + serial tests
CMV (IgM+)	✓	False positive (confirm with ID)
Septicemia**	Depends	Accept if controlled sepsis + Consult ID
Active tuberculosis	X	Confirm with pulmonologist (CXR findings)
UTI**	Depends	Accept if uncomplicate UTI + Consult ID
Rabie/Prion	X	-
Meningoencephalitis	X	-

*Check previous treatment in donor, Ceftriaxone for peri-operative prophylaxis. Penicillin within 1 week post op (2-3 doses)
**Check U/C & H/C + repeat culture @PMK, ATB 7 days post-operative, If MDR ± Colistin/Aminoglycoside

Srisuwarn P, Sumethkul V. World J Hepatol. 2021 Aug 27;13(8):853-867.
OPTN policies 2025
KDIGO 2022 Clinical Practice Guideline FOR the Prevention, Diagnosis, Evaluation, and Treatment of Hepatitis C in Chronic Kidney Disease
Yin S, et al. Emerg Infect Dis. 2024 Jul;30(7):1420-1424.

Kidney lesions

Lesions	Accept	Conditions
Contusion/hematoma	X	Confirmed by gross examination
Vascular stenosis	X	Confirmed by gross examination + consult Vascular Surgeon
Vascular trauma	X	Confirmed by gross examination + consult Vascular Surgeon
Cysts	Depends	Discard if Bosniak ≥3 (±2), or ADPKD
Obstruction	Depends	Mild hydronephrosis is possible in polyuria state (Donor's central DI) + should be grossly confirmed + consult Urologist
Stones	Depends	If removable or insignificantly small + consult Urologist
Mass	Depends	Confirmed by gross examination & frozen section + consult Urologist
Small kidney size	X	Confirmed by gross examination only ***(not imaging)***

OPTN policies 2025

KDIGO Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors 2017.

Miscellaneous

Lesions	Accept	Conditions
Proteinuria	Depends	Check baseline (if possible), false high UPCR in AKI (repeat if possible) or stress related (esp. normal serum albumin, no edema, and no significant clinical features of kidney disease) and no significant long-term outcome if mild-moderate[3,5] *Concerning* if donor is *diabetic + proteinuria*[2]
Hematuria	Depends	Mostly lower urinary tract trauma (catheter related), *Concerning* if persistent and correlate with proteinuria (GN) or KUB system trauma
Cancer	X	-
Chronic lesion from Bx	X	If glomerulosclerosis ≥20% or moderate-severe IFTA[1]
IVDU	Depends	Gross examination of vascular abnormalities +/- GN associated with IVDU

1.OPTN policies 2025
2.Rampersad C, Kim SJ. Can J Kidney Health Dis. 2026 Feb 26;13:20543581261424568.
3.Pollmann NS, et al. Transpl Int. 2023 Dec 14;36:11953.
4.Haupenthal F, et al. Transplantation. 2022 Oct 1;106(10):2044-2051.
5.Kuhn C, et al. Clin Transplant. 2022 Apr;36(4):e14574.

What is our (PMK) approach?

NEPHROLOGY

Absolute contraindication

Conditions	Details
Infections	- ***HIV***, ***TB (active)***, ***Uncontrolled*** septicemia, ***Complicated*** UTI, Rabies, Prion, Meningoencephalitis, **HBV with HBeAg+**
Cancer	- Any confirmed or **suspicious malignancy** (pre-cancerous as well)
Kidney lesion	- **Cyst** (Bosniak ≥3) - **Highly suspicious mass** (confirmed by gross examination +/- frozen and discussed with urologist) - **Traumatic lesion** of KUB or renovascular (confirmed with urologist)
Kidney disease	- **Evidence of CKD** (presence of abnormal baseline SCr, small size from gross examination, glomerulosclerosis ≥20% or moderate-severe IFTA) - **Proteinuria** from GN (plus hematuria + clinical feature) - **Severe AKI**; **persistent** stage 3, SCr ≥4 mg/dL or oliguria ≥24 h
Miscellaneous	- **CIT** >24 h, **Age** ≥65 y

Dare AJ, et al. Transplantation. 2014 Apr 27;97(8):797-807.
Sharif A. Transpl Int. 2022 Aug 25;35:10482.

What is our (PMK) approach?

NEPHROLOGY
PYRAMONGKUTKLAO HOSPITAL

Case-by-Case evaluation

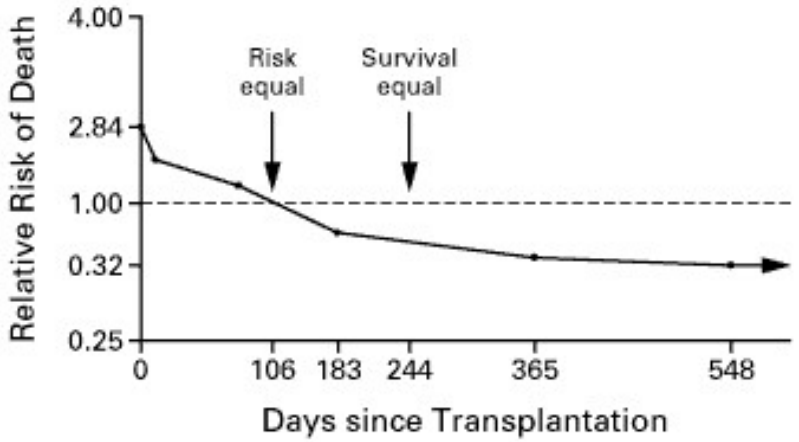
Conditions	Details
Infections	- **HBsAg positive** (HBeAg negative) check Recipient Anti-HBc if >100 mIU/mL= accept but entecavir (+ consult GI) if Anti-HbC <100 mIU/mL consider HBIG + entecavir (+ consult GI)
Kidney lesion	- **Cyst** Bosniak **2/2F discuss** with patient + Urologist - **Renal stone**; consult urologist and accept if ***small non-obstructive*** stone
Kidney disease	- **AKI** if ***partial or complete*** recovery; even stage 3 is not associated with significant DGF rate esp. in standard criteria donor. **Marginal** (high KDPI or ECD) if **moderate to severe** AKI may need to be discussed in detail.
Miscellaneous	- **60-65 y (old donor)** if evidence of minimal kidney fibrosis (histology) and ± avoid young recipient (< 40-50 y) - **ECD** is acceptable if recipient age <50 y and non-severe AKI - **Donor with diabetes** is acceptable if no signs of DKD and recipient age is >40-45 y - **High KDPI (>80-85%)** if non-severe or severe but non-persistent AKI

Remuzzi G, et al. N Engl J Med. 2006 Jan 26;354(4):343-52.
Yamamoto R, et al. Sci Rep. 2025 Dec 18;16(1):2694.
Rose C, et al. J Am Soc Nephrol. 2015 Oct;26(10):2483-93.

Thank you for your attention

Survival benefit of transplant across subgroup

Group	Relative Risk 18 Mo after Transplantation (95% CI)†	P Value	Time at Which Risk of Death Equals That in Reference Group	Time at Which Likelihood of Survival Equals That in Reference Group	Projected Years of Life (in Reference Group) without Transplantation†‡	Projected Years of Life with Transplantation‡
			days after transplantation			
All recipients of first cadaveric transplants	0.32 (0.30–0.35)	<0.001	106	244	10	20
Age						
0–19 yr	0.33 (0.12–0.87)	0.03	3	5	26	39
20–39 yr	0.24 (0.20–0.29)	<0.001	11	57	14	31
40–59 yr	0.33 (0.29–0.37)	<0.001	95	251	11	22
60–74 yr	0.39 (0.33–0.47)	<0.001	148	369	6	10
Sex						
Male	0.34 (0.30–0.38)	<0.001	110	255	10	19
Female	0.30 (0.26–0.34)	<0.001	94	220	11	23
Race						
Native American	0.50 (0.27–0.96)	0.04	123	304	9	14
Asian	0.43 (0.25–0.75)	0.003	161	673	15	23
Black	0.52 (0.44–0.62)	<0.001	109	305	13	19
White	0.28 (0.25–0.30)	<0.001	100	220	9	19
Cause of end-stage renal disease						
Diabetes	0.27 (0.24–0.30)	<0.001	57	146	8	19
Glomerulonephritis	0.39 (0.31–0.48)	<0.001	130	360	11	18
Other	0.38 (0.33–0.43)	<0.001	137	353	12	20
Age and diabetes status						
20–39 yr, no diabetes	0.38 (0.28–0.50)	<0.001	14	220	20	31
20–39 yr, diabetes	0.18 (0.14–0.23)	<0.001	10	35	8	25
40–59 yr, no diabetes	0.38 (0.33–0.43)	<0.001	126	356	12	19
40–59 yr, diabetes	0.27 (0.23–0.32)	<0.001	66	181	8	22
60–74 yr, no diabetes	0.37 (0.30–0.46)	<0.001	159	442	7	12
60–74 yr, diabetes	0.46 (0.34–0.61)	<0.001	89	247	5	8



By >3 months, survival↑

Wolfe RA, et al. N Engl J Med. 1999 Dec 2;341(23):1725-30.

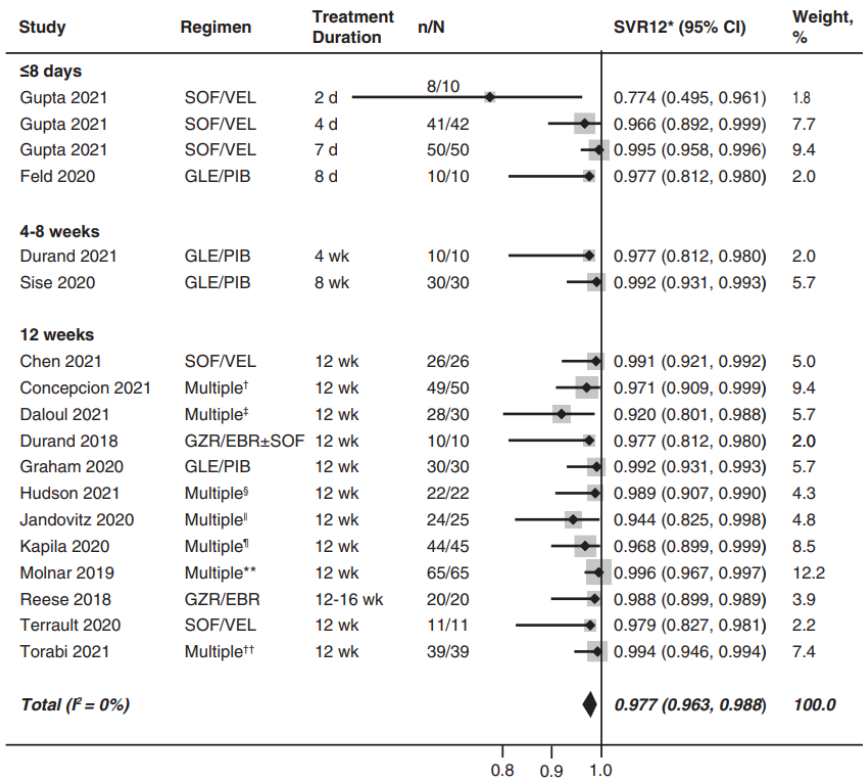
Original KDRI reference donor criteria

- The reference donor **(KDRI = 1.00)** had the following characteristics:
- **40-year-old**, non-African American race
- Serum creatinine **1.0 mg/dL**
- **Non-hypertensive, Non-diabetic**
- Cause of death **other than** cerebrovascular accident, height 170 cm, weight more than or equal to 80 kg
- **Brain dead** donor (not donation after cardiac death)
- **HCV negative**

Rao PS, et al. Transplantation. 2009 Jul 27;88(2):231-6.

HCV infected donor is not that awful

Kidney Transplantation From Hepatitis C Virus–Infected Donors to Uninfected Recipients: A Systematic Review for the KDIGO 2022 Hepatitis C Clinical Practice Guideline Update



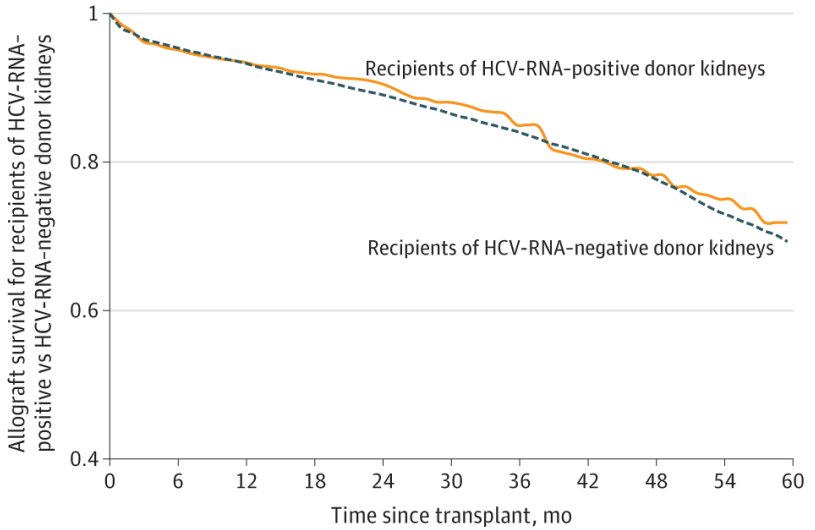
Study	Regimen	Treatment Duration	n/N	SVR12* (95% CI)	Weight, %
≤8 days					
Gupta 2021	SOF/VEL	2 d	8/10	0.774 (0.495, 0.961)	1.8
Gupta 2021	SOF/VEL	4 d	41/42	0.966 (0.892, 0.999)	7.7
Gupta 2021	SOF/VEL	7 d	50/50	0.995 (0.958, 0.996)	9.4
Feld 2020	GLE/PIB	8 d	10/10	0.977 (0.812, 0.980)	2.0
4-8 weeks					
Durand 2021	GLE/PIB	4 wk	10/10	0.977 (0.812, 0.980)	2.0
Sise 2020	GLE/PIB	8 wk	30/30	0.992 (0.931, 0.993)	5.7
12 weeks					
Chen 2021	SOF/VEL	12 wk	26/26	0.991 (0.921, 0.992)	5.0
Concepcion 2021	Multiple†	12 wk	49/50	0.971 (0.909, 0.999)	9.4
Daloul 2021	Multiple‡	12 wk	28/30	0.920 (0.801, 0.988)	5.7
Durand 2018	GZR/EBR±SOF	12 wk	10/10	0.977 (0.812, 0.980)	2.0
Graham 2020	GLE/PIB	12 wk	30/30	0.992 (0.931, 0.993)	5.7
Hudson 2021	Multiple§	12 wk	22/22	0.989 (0.907, 0.990)	4.3
Jandovitz 2020	Multiple‖	12 wk	24/25	0.944 (0.825, 0.998)	4.8
Kapila 2020	Multiple¶	12 wk	44/45	0.968 (0.899, 0.999)	8.5
Molnar 2019	Multiple**	12 wk	65/65	0.996 (0.967, 0.997)	12.2
Reese 2018	GZR/EBR	12-16 wk	20/20	0.988 (0.899, 0.989)	3.9
Terrault 2020	SOF/VEL	12 wk	11/11	0.979 (0.827, 0.981)	2.2
Torabi 2021	Multiple††	12 wk	39/39	0.994 (0.946, 0.994)	7.4
Total (I^2 = 0%)				***0.977 (0.963, 0.988)***	***100.0***

0.8 0.9 1.0

HCV- KTR who received HCV+ allograft achieved **SVR12 97.7%**

Five-Year Allograft Survival for Recipients of Kidney Transplants From Hepatitis C Virus Infected vs Uninfected Deceased Donors in the Direct-Acting Antiviral Therapy Era

JAMA® The Journal of the American Medical Association



- Large cohort of 45,827 deceased donors and 75,905 KTR (multicenter)
- **No significant difference in 5-year allograft survival** for recipients of HCV positive vs HCV negative donor kidneys (72% vs 69%)

We recommend that kidneys from HCV-infected donors be considered regardless of HCV status of potential kidney transplant recipients (1C).

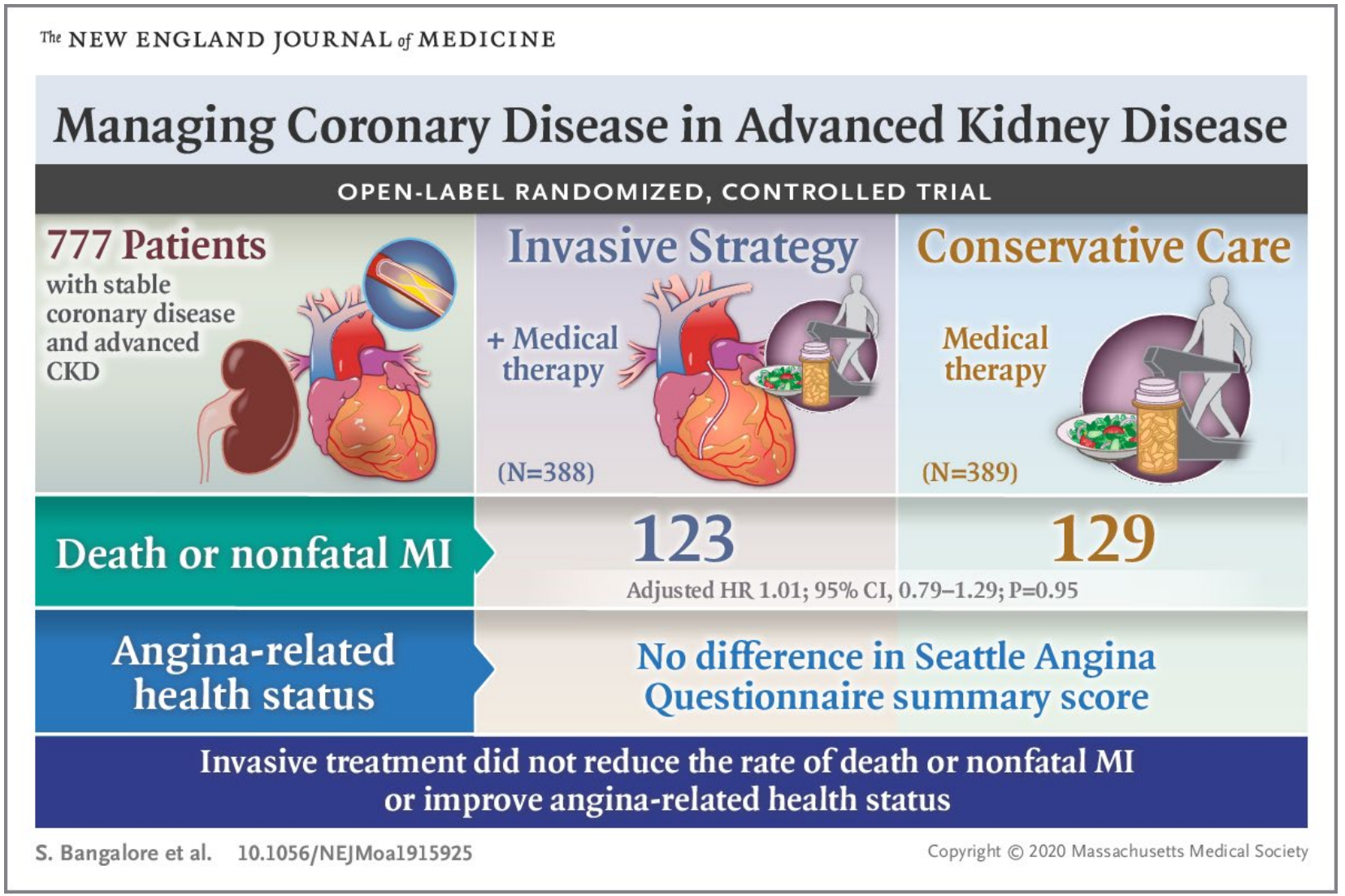
Schaubel DE, Tran AH, Abt PL, Potluri VS, Goldberg DS, Reese PP. JAMA. 2022;328(11):1102–1104.
Kidney Disease: Improving Global Outcomes (KDIGO) Hepatitis C Work Group. *Kidney Int*. 2022;102(6S):S129-S205.
Gordon CE, Adam GP, Jadoul M, Martin P, Balk EM. Am J Kidney Dis. 2023;82(4):410-418.

To CAG or not to CAG, that is the question

25% Asian
Median age 63 y
57% diabetes
Median EF 58%
ESRD 53% (HD 83%)
, vintage 2 y
CCS grade 1-2
NYHA 1-2

Moderate-severe ischemia from Non-invasive testing

Exclude **left main stenosis** >50% (if available data)
LVEF< 35%
Recent ACS in 2 month
Severe valvular disease

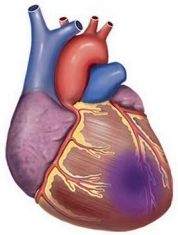
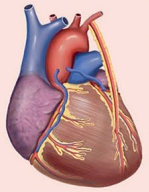
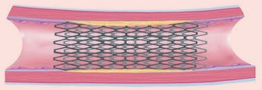


Bangalore S, et al. N Engl J Med. 2020 Apr 23;382(17):1608-1618.

To CAG or not to CAG, that is the question

Kidney Transplant List Status and Outcomes in the ISCHEMIA-CKD Trial

JACC

Study Population	Intervention	Primary Outcome		
		 or 	3 -Year Cumulative Incidence	Hazard Ratio (95% CI)
777 randomized participants of ISCHEMIA-CKD	Invasive Strategy (n = 94)			
	Guideline Directed Medical Therapy + Coronary Angiography  or 		29%	0.91 (0.54-1.54)
194 participants who were on the kidney transplant wait list at randomization	Conservative Strategy (n = 100) Guideline Directed Medical Therapy		30%	

Herzog CA, et al. J Am Coll Cardiol. 2021 Jul 27;78(4):348-361.