

دانشگاه علوم پزشکی و خدمات بهداشتی، درمانی
استان اصفهان



Case Discussion

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سوال ۱

• در مورد ترتیب خارج کردن ارگان از بدن DCD کدامیک صحیح است؟

a. قلب - کلیه - کبد - ریه - پانکراس

b. ریه - قلب - کلیه - پانکراس - کبد

c. قلب - ریه - کبد - پانکراس - کلیه

d. ریه - کبد - قلب - کلیه - پانکراس



سوال ۱

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c. قلب - ریه - کبد - پانکراس - کلیه

d. ریه - کبد - قلب - کلیه - پانکراس



سوال ۲

Donor candidates who smoke should be advised to quit at leastbefore donation to reduce their risk of peri-operative complications, & commit to lifelong abstinence to prevent long-term complications.

- a. 2 weeks
- b. 3 weeks
- c. 4 weeks
- d. 2 months



سوال ۲

Donor candidates who smoke should be advised to quit at leastbefore donation to reduce their risk of peri-operative complications, & commit to lifelong abstinence to prevent long-term complications.

- a. 2 weeks
- b. 3 weeks
- c. 4 weeks
- d. 2 months



eGFRcr



Questions

Gender? [Female](#) >

Race? [Not African-American](#) >

Age? [45 Years](#) >

Creatinine? [1 mg/dL](#) >

Results

Estimated GFR using CKD-EPI

68 mL/min/1.73m²

Estimated GFR using MDRD

63.7 mL/min/1.73m²

Resources

Free PD Resources to Simplify Your Practice

Information from Indus



سوال ۳

- Which of the following should not be performed in postdonation follow-up?
 - a. BP measurement
 - b. BMI measurement
 - c. Serum Cr measurement with eGFR
 - d. Albuminuria measurement
 - e. Annually ultrasonography



سوال ۳

- Which of the following should not be performed in postdonation follow-up?
 - a. BP measurement
 - b. BMI measurement
 - c. Serum Cr measurement with eGFR
 - d. Albuminuria measurement
 - e. Annually ultrasonography



What is the Kidney Donor Profile Index (KDPI)?

The kidney donor profile index (**KDPI**) combines a variety of donor factors into a single number that summarizes the likelihood of graft failure after deceased donor kidney transplant.



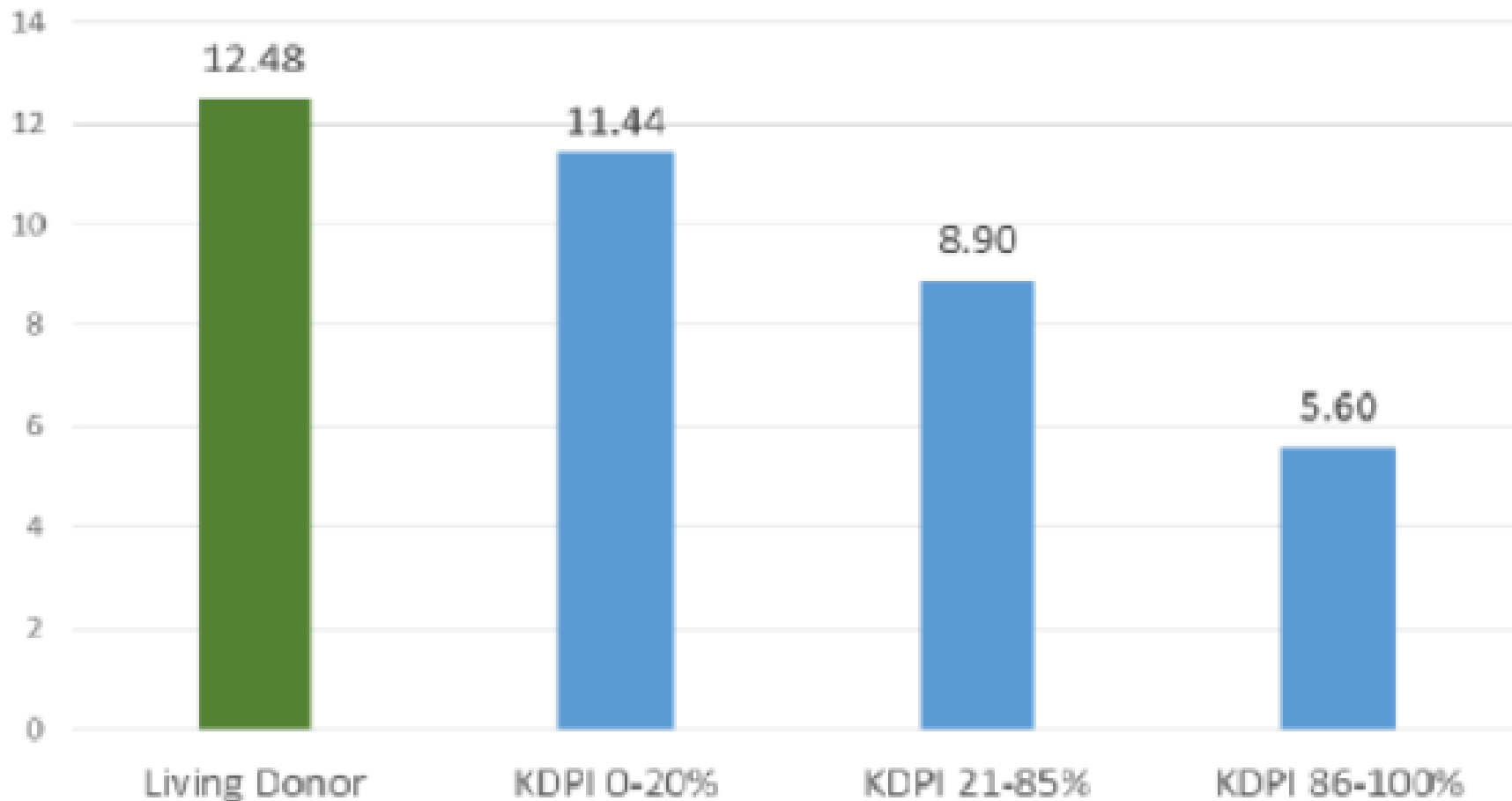
What is the KDPI trying to tell me?

- The KDPI tells you how long a deceased donor kidney is expected to function relative to all of the kidneys recovered in the U.S. during the last year.
- **Lower KDPI scores are associated with longer estimated function**, while higher KDPI scores are associated with shorter estimated function.
- For example, a kidney with a KDPI of 20% is expected to have shorter longevity than 20% of recovered kidneys (i.e., longer function than 80% of recovered kidneys).



How much difference in expected longevity exists between low, medium, & high KDPI kidneys?

Figure 1: Estimated Graft Half Lives (years)



i All fields are required.

i Interpretation: The estimated risk of kidney graft failure from this donor is higher than 28% of all kidney donors recovered in 2017 and 0.81 times that of the median donor from 2017.

Age: (years)

Age: (years)

Height:

 ft in cm

Weight:

 lbs kg

Height:

 ft in cm

Weight:

 lbs kg

Ethnicity

History

History

Cause of

Interpretation: The estimated risk of kidney graft failure from this donor is higher than 28% of all kidney donors recovered in 2017 and 0.81 times that of the median donor from 2017.

Serum Creatinine:(mg/dl)

HCV Status

HCV Status

Donor meets DCD Criteria?

Donor meets DCD Criteria?

[Reset](#)

Calculate

[Reset](#)

Calculate

KDPI: 28% KDRI: 0.81

Age: (years)

Height: ft cm

Weight: lbs

Ethnicity/Race:

History of Hypertension:

History of Diabetes:

Cause of Death:

Serum Creatinine:(mg/dl)

HCV Status

Donor meets DCD Criteria?

Cause of Death:

Serum Creatinine:(mg/dl)

HCV Status

Donor meets DCD Criteria?

[Reset](#)

Interpretation: The estimated risk of kidney graft failure from this donor is higher than 77% of all kidney donors recovered in 2017 and 1.33 times that of the median donor from 2017.

[Reset](#)

KDPI: 77% KDRI: 1.33

Date of Birth:(mm/dd/yyyy)  OR **Age:**(years)

Date of Birth:(mm/dd/yyyy)  OR **Age:**(years)

Based on a reference population as of 12/31/2017, this candidate's EPTS of 11% is in the national Top 20%, making them eligible for increased priority for kidneys from donors with KDPI in the Top 20%.

OR

Years since dialysis was started:

Current diabetes status:

Number of previous solid organ transplants:

Note: Number of previous solid organ transplants includes all transplants inside and outside the U.S. Solid organ transplants include kidney, pancreas, liver, heart, lung, and intestine.


Calculate EPTS as of this date:(mm/dd/yyyy) 

A future date can be entered to simulate a candidate's EPTS progression over time.

Current diabetes status:

Number of previous solid organ transplants:

Note: Number of previous solid organ transplants includes all transplants inside and outside the U.S. Solid organ transplants include kidney, pancreas, liver, heart, lung, and intestine.

Calculate EPTS as of this date:(mm/dd/yyyy) 

A future date can be entered to simulate a candidate's EPTS progression over time.

[Reset](#)



سوال ۴

- دهنده کلیه با KDPI 90% مناسب پیوند برای تمامی موارد زیر است به جز:
 - a. مرد ۷۳ ساله با CPRA ۲۰٪
 - b. خانم ۲۰ ساله با سابقه لوپوس نفریاتی تحت همودیالیز بدو ن واسکولار اکسس مناسب
 - c. مرد ۳۰ ساله تحت همودیالیز از ۴ سال قبل به علت نفریاتی دیابت با CPRA ۸۰٪
 - d. گیرنده با EPTS 85%



سوال ۴

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 - a. مرد ۷۳ ساله با CPRA ۲۰٪
 - b. خانم ۲۰ ساله با سابقه لوپوس نفریاتی تحت همودیالیز بدون واسکولار اکسس مناسب
 - c. مرد ۳۰ ساله تحت همودیالیز از ۴ سال قبل به علت نفریاتی دیابت با CPRA ۸۰٪
 - d. گیرنده با EPTS 85%



سوال ۵

• دهنده کلیه با KDPI 13% برای پیوند کدامیک از موارد زیر ارجح است؟

a. مرد ۶۳ ساله با CPRA 20% و EPTS 35%

b. خانم ۲۰ ساله با سابقه لوپوس نفریاتی تحت همودیالیز

c. مرد ۳۰ ساله تحت همودیالیز از ۴ سال قبل به علت نفریاتی
ی دیابت با CPRA 86%

d. خانم ۴۰ ساله با EPTS 15%



سوال ۵

• دهنده کلیه با KDPI 13% برای پیوند کدامیک از موارد زیر ارجح است؟

a. مرد ۶۳ ساله با CPRA 20% و EPTS 35%

b. خانم ۲۰ ساله با سابقه لوپوس نروپاتی تحت همودیالیز

c. مرد ۳۰ ساله تحت همودیالیز از ۴ سال قبل با CPRA 86%

d. خانم ۴۰ ساله با EPTS 15%

CKD-EPI

CKD-EPI (Chronic Kidney Disease Epidemiology Collaboration)



[Home](#) [Assays](#) [GFR](#) [CKD Prevalence](#) [CKD Prognosis](#) [Surrogate Endpoint](#) [CKD-EPI](#) [Links](#)

CKD-EPI Chronic Kidney Disease Epidemiology Collaboration



[Donor Candidate GFR Calculator: Determining Probability of GFR Above or Below Certain Threshold](#)

The data below are derived from Huang N, Foster M, Lentine K et al. Estimated GFR for living kidney donor evaluation.

American Journal of Transplantation [epub ahead of print Nov 23 2015].

Step 1: Describe your patient

Age years

Sex Male Female

Race Non Black Black

Creatinine mg/dL $\mu\text{mol/L}$

Cystatin C mg/L

eGFRcr

eGFRcr-cys

Step 2: Determine pre-test probability

Calculate pre-test probability

Result (Pre-test probability based on age, sex and race from US population data)

Measured GFR Thresholds			
<60	<70	≥ 80	≥ 90
27 _r	47	34	16

Percentage of NHANES participants who had eGFRcr-cys less or above the specified thresholds. If you are interested in

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Measured GFR Thresholds

A

<60	<70	≥80	≥90
27	47	34	16

Measured GFR Thresholds

B

<60	<70	≥80	≥90
0	1	97	88

Step 3: Calculate the post-test probability

The calculator will look up the likelihood ratio based on the eGFR calculated from the creatinin and will compute post-test probability.

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Calculate post-test probability

Calculate post-test probability

Measured GFR Thresholds

	<60	<70	≥80	≥90
Post-test probability from eGFRcr [†]	91	98	1	0
Post-test probability from eGFRcr-cys [‡]	97	100	0	0

Measured GFR Thresholds

	<60	<70	≥80	≥90
Post-test probability from eGFRcr [†]	0	0	100	97
Post-test probability from eGFRcr-cys [‡]	N/A	N/A	N/A	N/A



سوال ۶: کدام بیمار نیاز به mGFR دارد؟

C. هیچکدام

D. هر دو

A.a

B.b

Summary report

Based on the information supplied:

Age	70
Sex	Female
Race	Non Black
Creatinine	1.3 mg/dL
Cystatin C	1.1 mg/L
Estimated GFR from creatinine	42 ml/min per 1.73 m ²
Estimated GFR from creatinine-cystatin C	51 ml/min per 1.73 m ²

A

Summary report

Based on the information supplied:

Age	40
Sex	Male
Race	Non Black
Creatinine	1 mg/dL
Cystatin C	mg/L
Estimated GFR from creatinine	94 ml/min per 1.73 m ²
Estimated GFR from creatinine-cystatin C	N/A ml/min per 1.73 m ²

B

Measured GFR Thresholds

<60 <70 ≥80 ≥90

Pre-test probability	27	47	34	16
Post-test probability from eGFRcr [†]	91	98	1	0
Post-test probability from eGFRcr-cys [‡]	97	100	0	0

Measured GFR Thresholds

<60 <70 ≥80 ≥90

Pre-test probability	0	1	97	88
Post-test probability from eGFRcr [†]	0	0	100	97
Post-test probability from eGFRcr-cys [‡]	N/A	N/A	N/A	N/A



سوال ۶: کدام بیمار نیاز به mGFR دارد؟

C. هیچکدام

A.a

d. هر دو

B.b

Summary report

Based on the information supplied:

Age	70
Sex	Female
Race	Non Black
Creatinine	1.3 mg/dL
Cystatin C	1.1 mg/L
Estimated GFR from creatinine	42 ml/min per 1.73 m ²
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B

Measured GFR Thresholds

<60 <70 ≥80 ≥90

Pre-test probability 27 47 34 16

Post-test probability from eGFRcr[†] 91 98 1 0

Post-test probability from eGFRcr-cys[‡] 97 100 0 0

Measured GFR Thresholds

<60 <70 ≥80 ≥90

Pre-test probability 0 1 97 88

Post-test probability from eGFRcr[†] 0 0 100 97

Post-test probability from eGFRcr-cys[‡] N/A N/A N/A N/A



ESRD Risk Tool for Kidney Donor Candidates

سوال ۷

Projected Incidence of End-Stage Renal Disease:

0.33%

Pre-Donation 15-Year*

2.39%

Pre-Donation Lifetime*

?

Post-Donation 15-Year**

?

Post-Donation Lifetime**

blue: < 1%, green: 1-2%, yellow: 2-3%, orange: 3-5%, red: >5%

Characteristics:

35



Male



White



85



135



No Medication



30



No Diabetes



25



Current Smoker



دهنده مناسبی

است؟

a. بله

b. خیر

Systolic Blood Pressure (mmHg)

Hypertension Medication

BMI (kg/m²)

Non-Insulin Dependent Diabetes

Urine Albumin to Creatinine (mg/g)

click on units to change between mg/g and mg/mmol

Smoking History



ESRD Risk Tool for Kidney Donor Candidates

سوال ۷

Projected Incidence of End-Stage Renal Disease:

0.33%

Pre-Donation 15-Year*

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Pre-Donation Lifetime*

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Urine Albumin to Creatinine (mg/g)

click on units to change between mg/g and mg/mmol

Smoking History



ESRD Risk Tool for Kidney Donor Candidates

سوال ۸

Patient Characteristics:

Projected Incidence of End-Stage Renal Disease:

0.21%

Pre-Donation 15-Year*

3.15%

Pre-Donation Lifetime*

?

Post-Donation 15-Year**

?

Post-Donation Lifetime**

blue: < 1%, green: 1-2%, yellow: 2-3%, orange: 3-5%, red: >5%

Systemic Blood Pressure (mmHg)

Hypertension Medication

BMI (kg/m²)

Non-Insulin Dependent Diabetes

Urine Albumin to Creatinine (mg/g)

click on units to change between mg/g and mg/mmol

Smoking History

32



Male



White



85



145



No Medication



28



No Diabetes



45



Non-Smoker



دهنده مناسبی

است؟

a. بله

b. خیر



ESRD Risk Tool for Kidney Donor Candidates

سوال ۸

Patient Characteristics:

Projected Incidence of End-Stage Renal Disease:

0.21%

Pre-Donation 15-Year*

3.15%

Pre-Donation Lifetime*

?

Post-Donation 15-Year**

?

Post-Donation Lifetime**

blue: < 1%, green: 1-2%, yellow: 2-3%, orange: 3-5%, red: >5%

Systemic Blood Pressure (mmHg)

Hypertension Medication

BMI (kg/m²)

Non-Insulin Dependent Diabetes

Urine Albumin to Creatinine (mg/g)

click on units to change between mg/g and mg/mmol

Smoking History

32



Male



White



85



145



No Medication



28



No Diabetes



45



Non-Smoker



دهنده مناسبی

است؟

a. بله

b. خیر



ESRD Risk Tool for Kidney Donor Candidates

سوال ۹

Patient Characteristics:

Projected Incidence of End-Stage Renal Disease:

0.72%

Pre-Donation 15-Year*

5.08%

Pre-Donation Lifetime*

?

Post-Donation 15-Year**

?

Post-Donation Lifetime**

blue: < 1%, green: 1-2%, yellow: 2-3%, orange: 3-5%, red: >5%

40

Male

White

80

140

No Medication

30

No Diabetes

60

Current Smoker

دهنده مناسبی
است؟

a. بله
b. خیر



ESRD Risk Tool for Kidney Donor Candidates

سوال ۹

Patient Characteristics:

Projected Incidence of End-Stage Renal Disease:

0.72%

Pre-Donation 15-Year*

5.08%

Pre-Donation Lifetime*

?

Post-Donation 15-Year**

?

Post-Donation Lifetime**

blue: < 1%, green: 1-2%, yellow: 2-3%, orange: 3-5%, red: >5%

40

Male

White

80

140

No Medication

30

No Diabetes

60

Current Smoker

دهنده مناسبی
است؟

a. بله

b. خیر



Kidney Donor Risk of ESRD

Patient Characteristics:

Sex

Male



Race (African American or non-African American)

Non-African American



Age (18-80yrs)

30



BMI (kg/m²)

27



Donor is 1st degree biological relative to recipient

No





Kidney Donor Risk of ESRD

Age (18-80yrs)

30

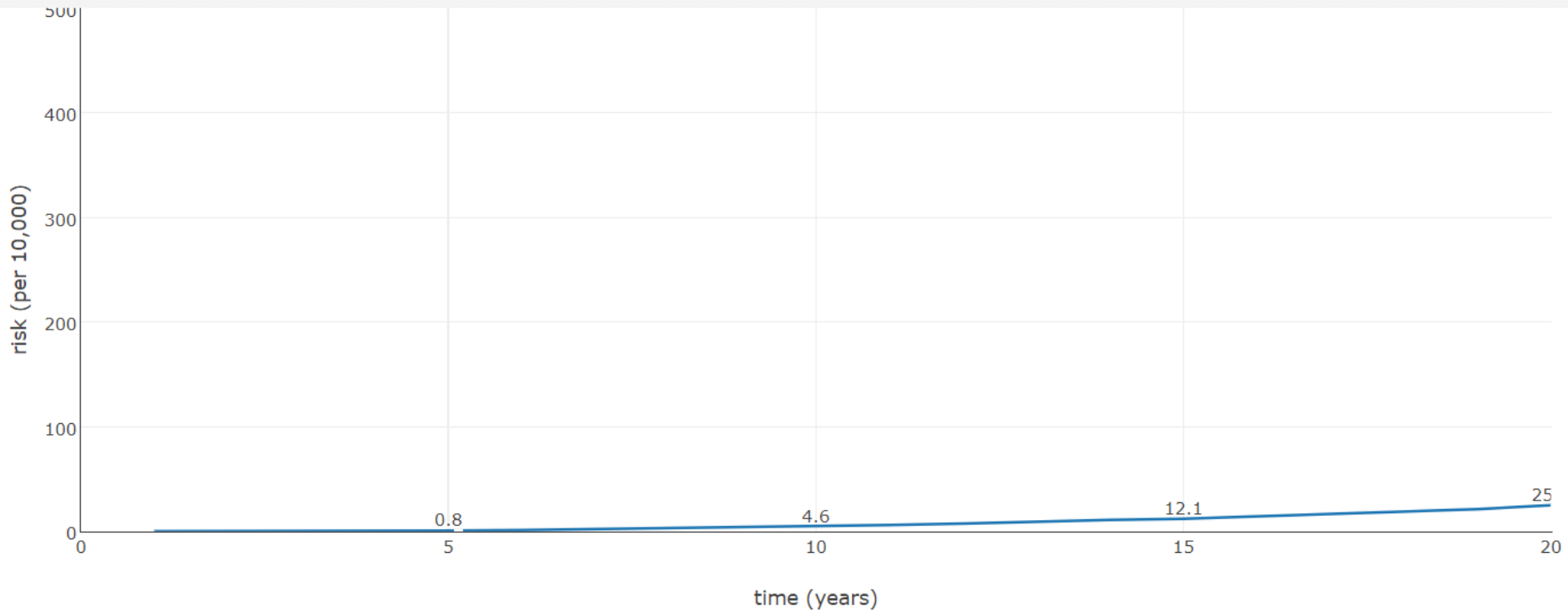
BMI (kg/m²)

27

Donor is 1st degree biological relative to recipient

No

Risk of Developing ESRD for Adults Who Previously Donated a Kidney (per 10,000)



These numbers represent the number of living kidney donors (per 10,000) who will develop ESRD in 5, 10, 15 and 20 years since their donation.



LKDPI Score:

30

This model calculates a risk score for a recipient of a potential live donor kidney.

Live KDPI Calculator

Live Donor Characteristics:

Donor age:	28	▼
Donor sex:	female	▼
Recipient sex:	female	▼
Donor eGFR:	85	▼
Donor SBP:	130	▼
Donor BMI:	27	▼
Donor is African-American:	No	▼
Donor history of cigarette use:	Yes	▼
Donor and recipient biologically related:	Yes	▼
Donor and recipient are ABO incompatible:	No	▼
Donor/Recipient Weight Ratio:	0.90 or higher	▼
Donor and recipient HLA-B mismatches:	1	▼
Donor and recipient HLA-DR mismatches:	1	▼



سوال ۱۰

• مرد ۳۲ ساله با سابقه دو نوبت دفع سنگ کلیه در طی ۷ سال گذشته تمایل دارد کلیه خود را بفروشد در سونوگرافی یک سنگ ۴ میلیمتری در کلیه چپ دیده شده است کدام اقدام صحیح است؟

a. آزمایش ادرار ۲۴ ساعته سنگ و در صورت نرمال بودن قبول کلیه حاوی سنگ برای هدیه

b. آزمایش ادرار ۲۴ ساعته سنگ و در صورت نرمال بودن قبول کلیه بدون سنگ برای هدیه

c. عدم پذیرش وی به عنوان دهنده کلیه

d. برداشتن کلیه حاوی سنگ برای هدیه و خارج کردن سنگ،
حین عمل جراحی پیوند



سوال ۱۰

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a. آزمایش ادرار ۲۴ ساعته سنگ و در صورت نرمال بودن قبول کلیه حاوی سنگ برای هدیه

b. آزمایش ادرار ۲۴ ساعته سنگ و در صورت نرمال بودن قبول کلیه بدون سنگ برای هدیه

c. عدم پذیرش وی به عنوان دهنده کلیه

d. برداشتن کلیه حاوی سنگ برای هدیه و خارج کردن سنگ،
حین عمل جراحی پیوند



Recommendation

Transplant programs should minimize conflict of interest by providing at least **one key team member** not involved in the care or evaluation of the intended recipient who evaluates the donor candidate & participates in the determination of donor acceptance.