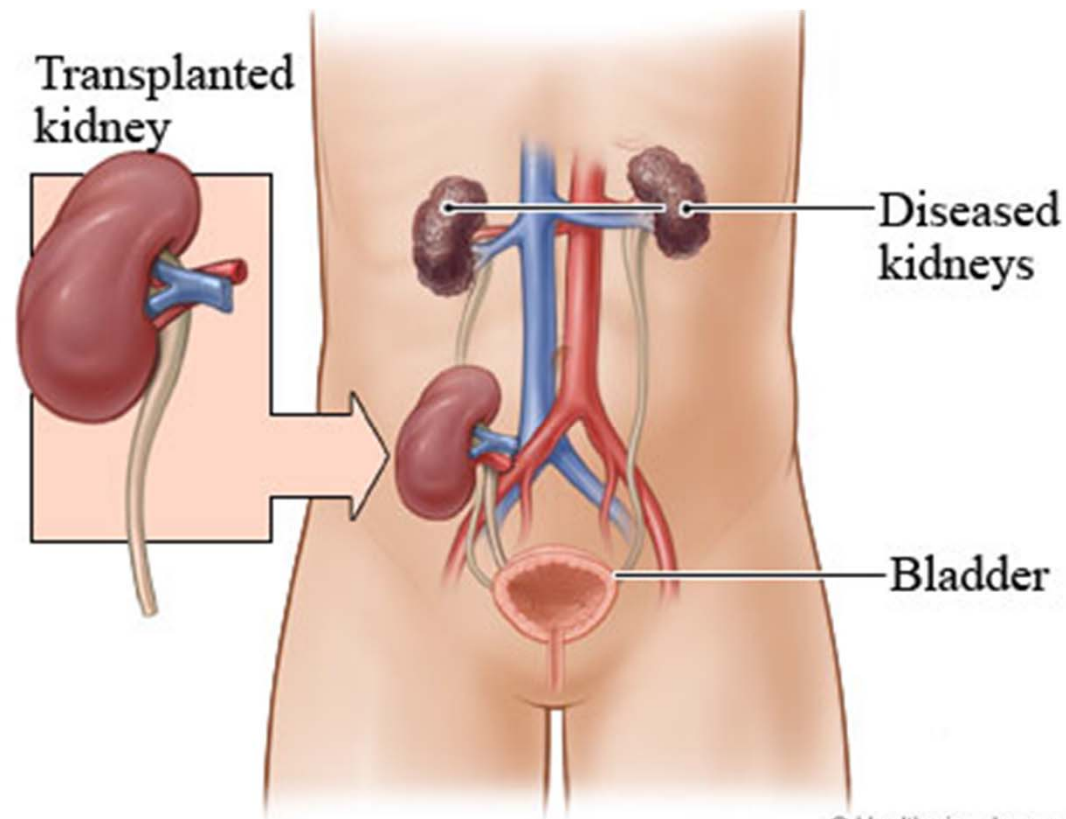


Kidney Transplant and living kidney donation

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Introduction

- Kidney transplant provides better long-term survival and improved quality of life compared to dialysis
- Patient survival and transplant success has been progressively improving over the years
- Kidney transplant is the treatment of choice for end stage renal disease in eligible patients



Success rates

- In British Columbia (www.transplant.bc.ca):
- Patient survival at one year is 98-100%
- The success rate (graft survival) from a living donor at one year is 97%
 - Lasts 15-20 years on average
- The graft survival from a deceased donor at one year is 93%
 - Lasts 10-15 years on average



Benefits and risks

- **Benefits** (Tonelli, AJT, 2011):
 - Significantly reduced risk of mortality
 - Life expectancy can triple
 - Reduced risk of heart attack, stroke, heart failure
 - Reduced infection-related hospitalization
 - Improved quality of life
 - More likely to stay employed
 - Anti-rejection medications fully funded in Canada



Benefits and risks

- Risks:
 - Acute rejection or failure (less with current meds)
 - Anti-rejection medication effects:
 - Infection
 - Some malignancies, ex/skin cancer
 - Increased risk of diabetes, high blood pressure, high cholesterol
 - Graft loss over time
- Overall in eligible candidates, the benefits far outweigh the risks



Cost savings

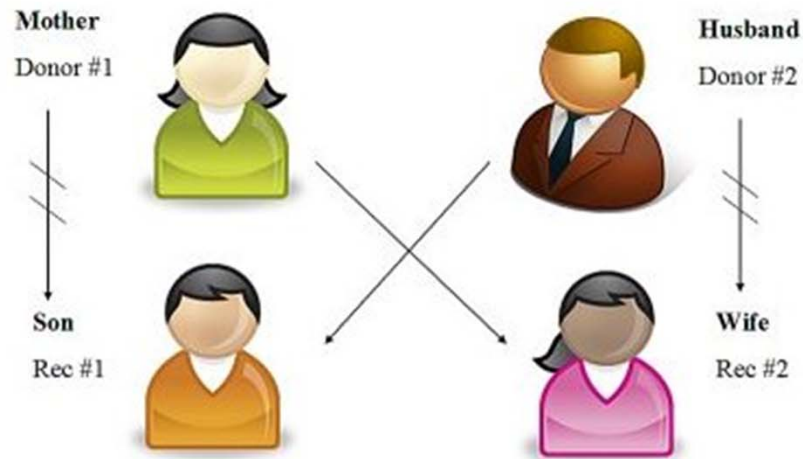
- In addition to patient benefits, transplants are cost-effective
- Average cost of dialysis treatment is \$50,000 per patient per year
- The one time cost of kidney transplant in BC is \$15,000
 - Average \$5,500 per patient per year for anti-rejection medications



Types of donors

- 2 types of donors: living and deceased
- Living donors
 - Donors are NOT more likely to develop ESRD, require dialysis, or have increased mortality risk compared to general population
 - Higher success rates for transplanted kidneys and for recipient survival
 - Majority of surgeries are done laparoscopically with tiny incisions and quick recovery time
 - Do not need to be a blood type match → paired exchange

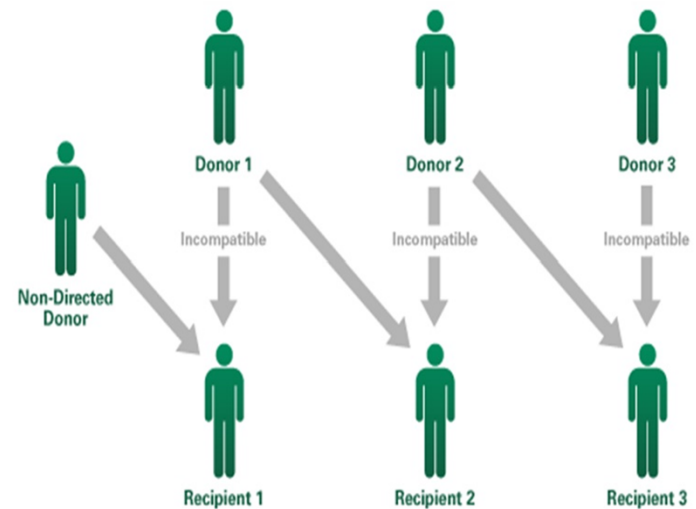
Paired exchange



National Canadian program since 2009

Domino chains require an altruistic donor

Canadian chains usually 10-12 people





Living donation

- In the highly unlikely event a donor would ever need a transplant themselves, they would be given top priority
- Most donors find the experience to be very positive and satisfying



Deceased donors

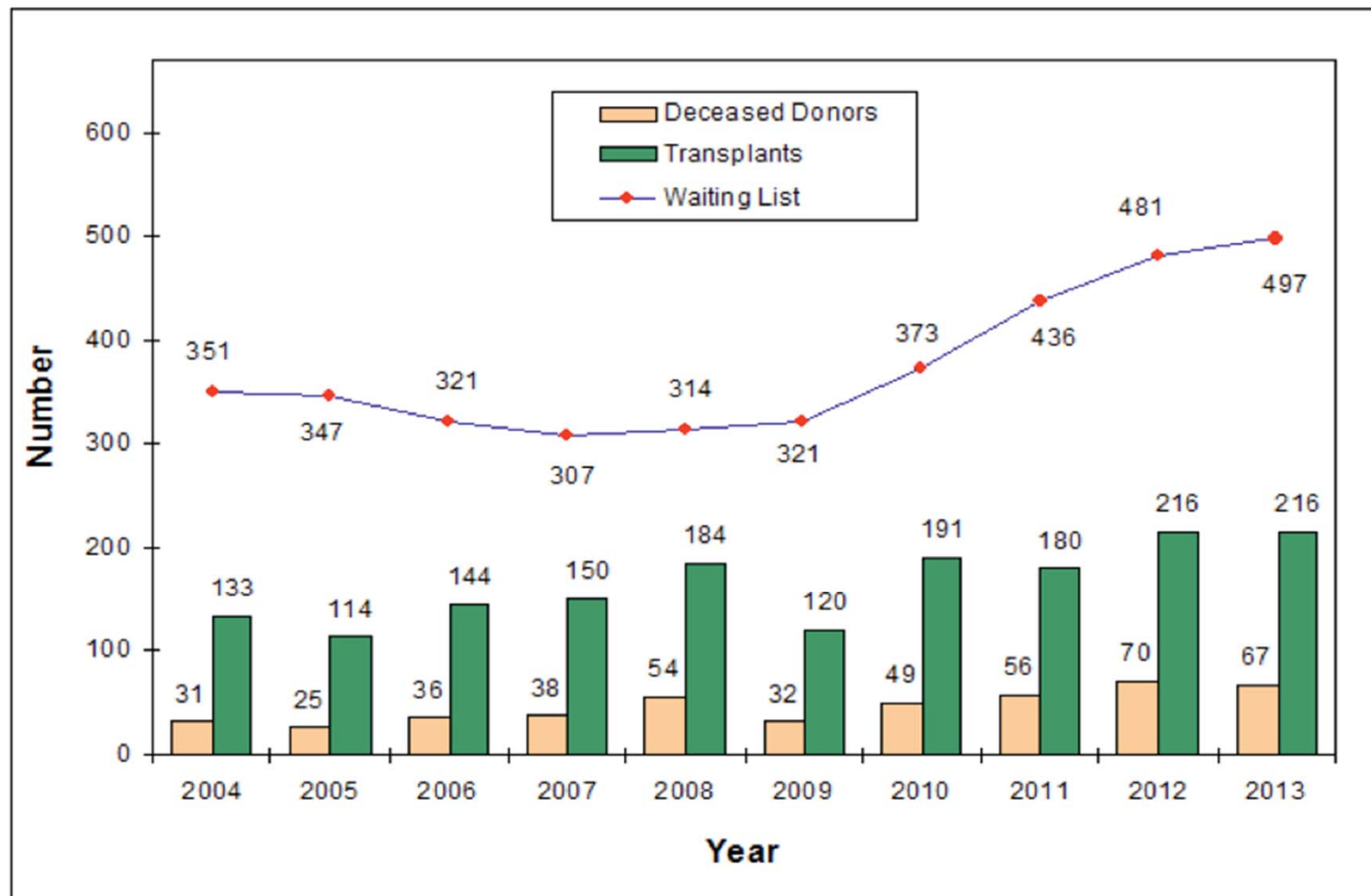
- Donation after brain death
 - Usual type
 - On ventilator, intact heartbeat and circulation, brain death declared
 - Less than 3% of all deaths
- Donation after cardiac death
 - Death occurs, heart stops, death declared THEN organs are recovered



Deceased Donors

- 504 people are currently on the wait list for a kidney in BC
- The waitlist far exceeds the availability of organs
- Time on the wait list starts the day of dialysis start and is dependent on blood type

Number of Deceased Donors, Deceased Donor Transplants and Patients on the Wait List at Year End



Year	A	AB	B	O	All
2006	56.4	2.1	88.5	85.3	80.7
2007	58.3	31.4	88.6	80.7	73.8
2008	48.9	38.8	N/A	81.6	68.4
2009	27.7	59.0	92.9	73.5	70.3
2010	41.1	44.1	67.3	77.8	64.7
2011	31.9	22.9	73.9	71.1	61.9
2012	24.2	35.9	99.5	66.2	43.7
2013	36.6	33.6	84.5	58.4	54.6
2014	31.0	26.6	87.7	59.9	43.8
2015	31.5	15.7	73.3	52.1	48.0
All	37.2	33.8	85.3	71.4	57.8

2.6 yrs 1.3 yrs 6 yrs 4.3 yrs

Median wait time (in months) from dialysis to transplant for adult deceased donor kidney transplants by blood type (first kidney transplant)
 Adult patients received a deceased donor kidney in the given year. Simultaneous multi-organ transplants and retransplants are excluded.



Commercial Trade of Organs

- Organ is bought illegally, often overseas
- Highly discouraged and potentially very dangerous
- Illegal in almost all countries
- Often performed in areas and by people who are not licensed
- High risk of complications, infections, and death
- Unethical
- Donors are often desperate, coerced, and even killed for their organs



Preemptive transplant (transplant before dialysis started)

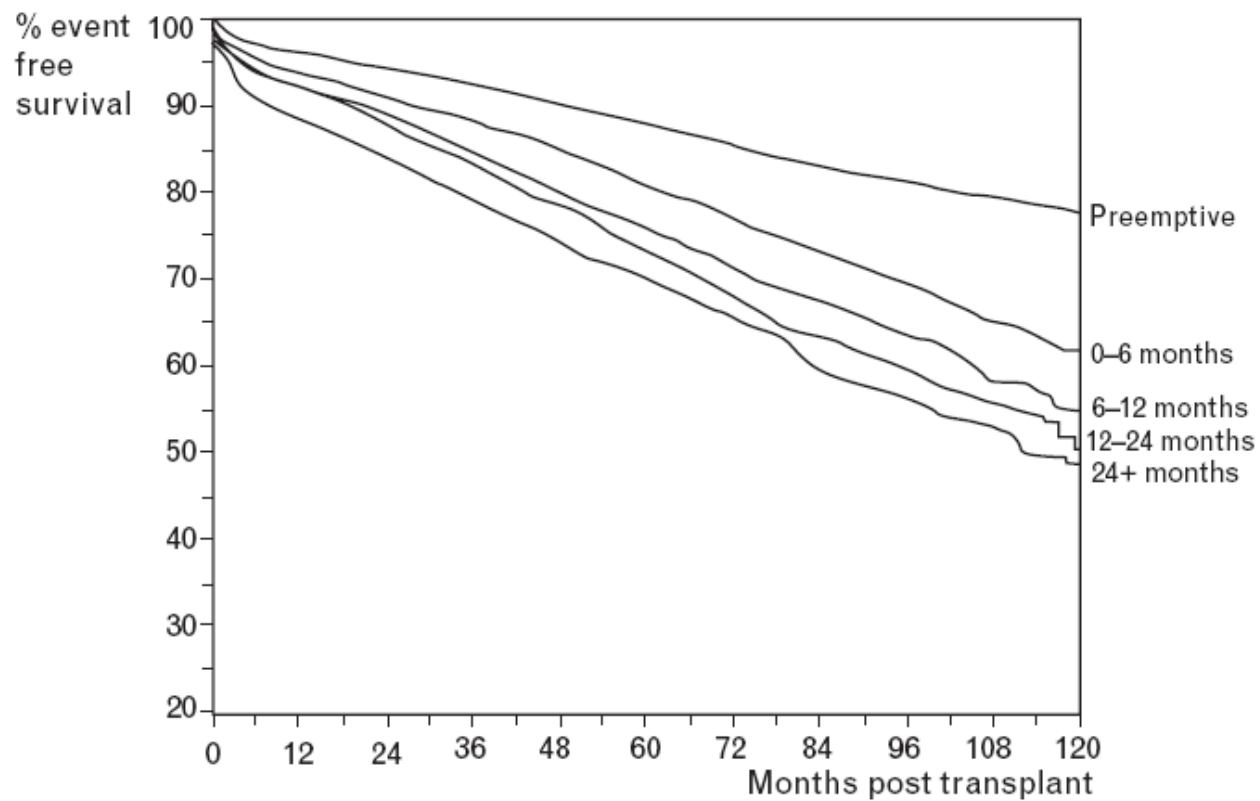
- **MANY** benefits including (Davis, Curr Opin Nephrol Hypertens, 2010):
 - Decreased rejection rates by 25%
 - Improved graft survival long-term
 - Improved patient survival
 - Less delayed graft function
 - Decreased overall hospitalizations



Preemptive transplant- benefits

- Avoid need for dialysis access
- Avoid dialysis complications: infections, blood transfusions, cardiac dysfunction, high blood pressure, need for central lines
- Maintained recipient employment
- Cost savings

Figure 1 Unadjusted graft survival by dialysis time



Sinha R, Marks SD. Comparison of parameters of chronic kidney disease following paediatric preemptive versus nonpreemptive renal transplantation. *Pediatr Transplant* 2010; 14:585-588.



How to find a living donor

- Change thought process from “I need to ask someone to donate”, to “I need to let people know about my situation, and educate them about the options that are available”
- Educating patients and their families about living donation is key



How to find a living donor

- Often helpful to have a spokesperson or champion who can advocate on the patient's behalf
 - Spouse, friend, family member
 - Helpful for them to attend education sessions and medical appointments with patient



“Tell your story”

- Donor outreach letter or email
- Social media
- Co-workers
- Community organizations
- Social groups
- Religious organizations
- Local newspapers or magazines



What to write/say?

- Suggested topics:
 - Tell your story, how you came to be in need a transplant, your current physical condition
 - Why you need a transplant...how it will help
 - The Waiting List
 - Benefits of a Transplant & Living Donation
 - Most healthy people can Donate
 - Make it clear that you are not asking for an answer now
 - Let them know that at any time they could change their mind and that they will not owe you an explanation why.



Peer Support

- Speak to others who have had challenges and successes finding living donors
- KIDNEY CONNECT Peer Support Program
 - The Kidney Foundation of Canada
 - <http://www.kidneyconnect.ca/>



Additional information

- www.transplant.bc.ca
- www.lkdn.org (living kidney donor network)
- www.kidney.org
- <http://www.kidney.ca/bc>



Transplant recipients

- There is no absolute age limit but depends on individual health status
- Absolute contraindications:
 - Active infection
 - Active malignancy
 - Severe respiratory conditions, ischemic heart disease, or peripheral vascular disease
 - Severe cognitive impairment
 - Active drug or alcohol addiction
 - Non-compliance
 - Severe obesity (relative)
- Hepatitis and HIV are no longer contraindications

Kidney Transplant Referral Absolute Contraindications

Name: Sex: Birth Date: PHN:

Absolute Contraindication	Present	Assess Date	Description
Active infection (eg. TB)	No	05-AUG-2016	
Active Malignancy	No	05-AUG-2016	--Renal transplant candidates with a previous history of malignancy should be successfully treated before proceeding with transplantation --Most renal transplant candidates with a history of malignancy should wait a period of time between successful treatment and transplantation. The length of time will depend on the type of malignancy. --Most patients with multiple myeloma should not undergo renal transplantation. --Excluding localized squamous cell and basal cell carcinoma*
Severe respiratory conditions	No	05-AUG-2016	including: --patients requiring home oxygen therapy --uncontrolled asthma --severe cor pulmonale --severe COPD/pulmonary fibrosis or restrictive disease with any of the following parameters: 1) best FEV1 <25% predicted value 2) PO2 room air <60 mmlHg with exercise desaturation SaO2 <90% 3) >4 lower respiratory infections in the last 12 months 4) moderate disease with evidence of progression
Severe Ischemic Heart Disease including:	No	05-AUG-2016	-- Patients with progressive symptoms of angina -- Patients with a myocardial infarction within 6 months. -- Patients without an appropriate cardiac workup. -- Patients with severe diffuse disease especially with positive non-invasive tests in whom intervention is not possible and in whom expected survival is sufficiently compromised that their life expectancy is less than 5 years
Severe Peripheral Vascular Disease including	No	05-AUG-2016	-- large uncorrectable abdominal aneurysms -- severe occlusive common iliac disease -- gangrene
Transplant candidates with cirrhosis	No	05-AUG-2016	Transplant candidates with decompensated cirrhosis should not be considered for kidney transplantation alone, but may be considered for combined liver-kidney transplantation.
Severe Cognitive impairment	No	05-AUG-2016	Cognitive impairment is not an absolute contraindication to kidney transplantation. However particular care must be taken to ensure that informed consent can be obtained and that a support system is in place to ensure adherence to therapy and patient safety *Mark yes if consent can not be obtained and there is no potential support system.
Active Drug or Alcohol Addiction	No	05-AUG-2016	Patients with addiction should be in an established recovery program and be stable for a minimum of one year.
Patient non-adherence to therapy	No	05-AUG-2016	Patient non-adherence to therapy is a contraindication to kidney transplantation, given the use of immunosuppressive agents with a narrow therapeutic window, the impact of non-adherence to therapy on risk of acute rejection and premature graft loss, and the scarcity of donor organs
Early loss(Multiple Transplant)	No	05-AUG-2016	Early loss (Less than 2 years) of two previous transplants to rejection or recurrent disease.
Bipolar/Manic patients	No	05-AUG-2016	Bipolar/Manic patients on lithium that cannot be controlled on alternate medication.



Questions?