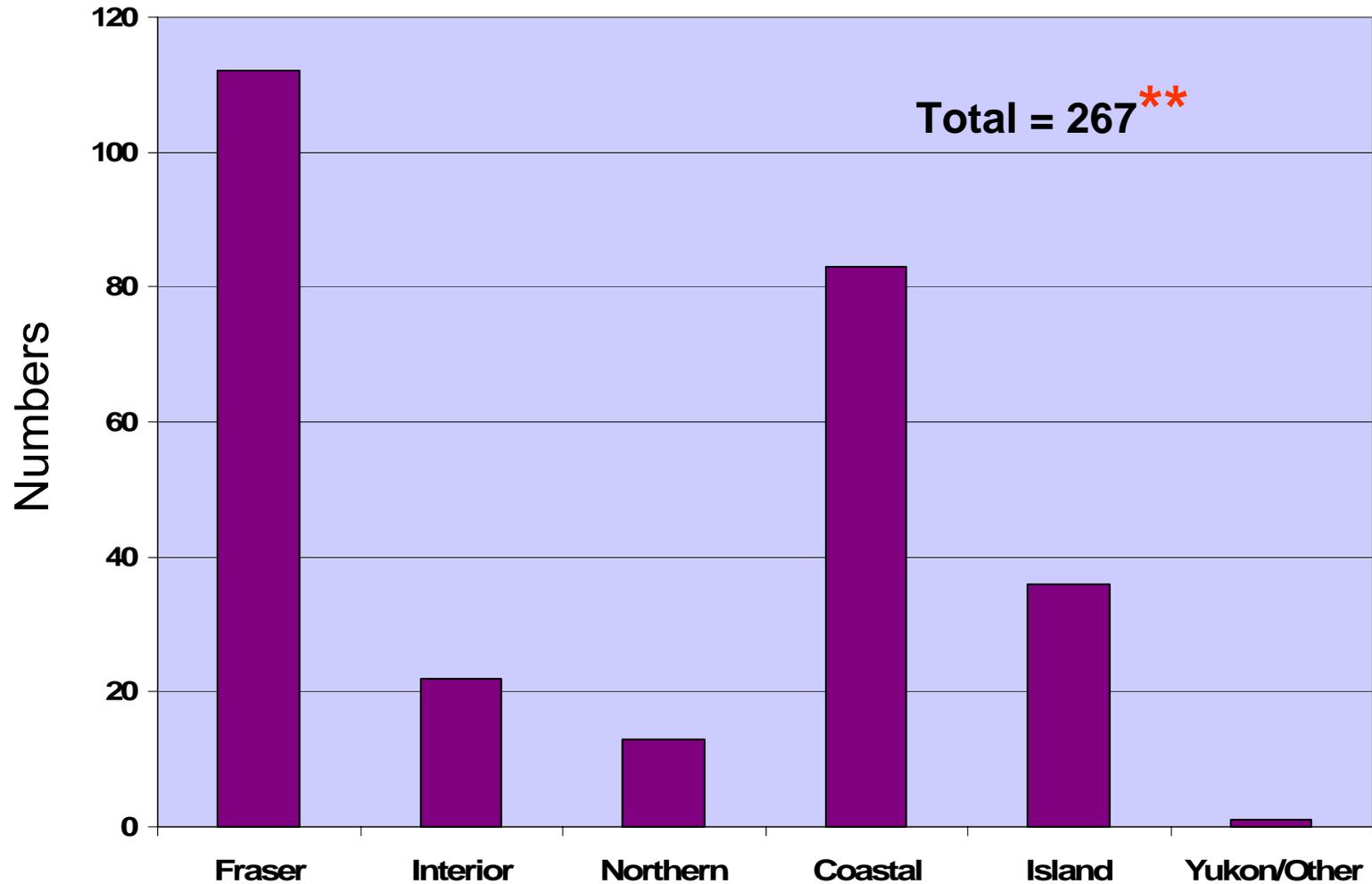

Living Donor Transplantation Opportunities and Barriers

BC Nephrology Day
October 5, 2006

Issues

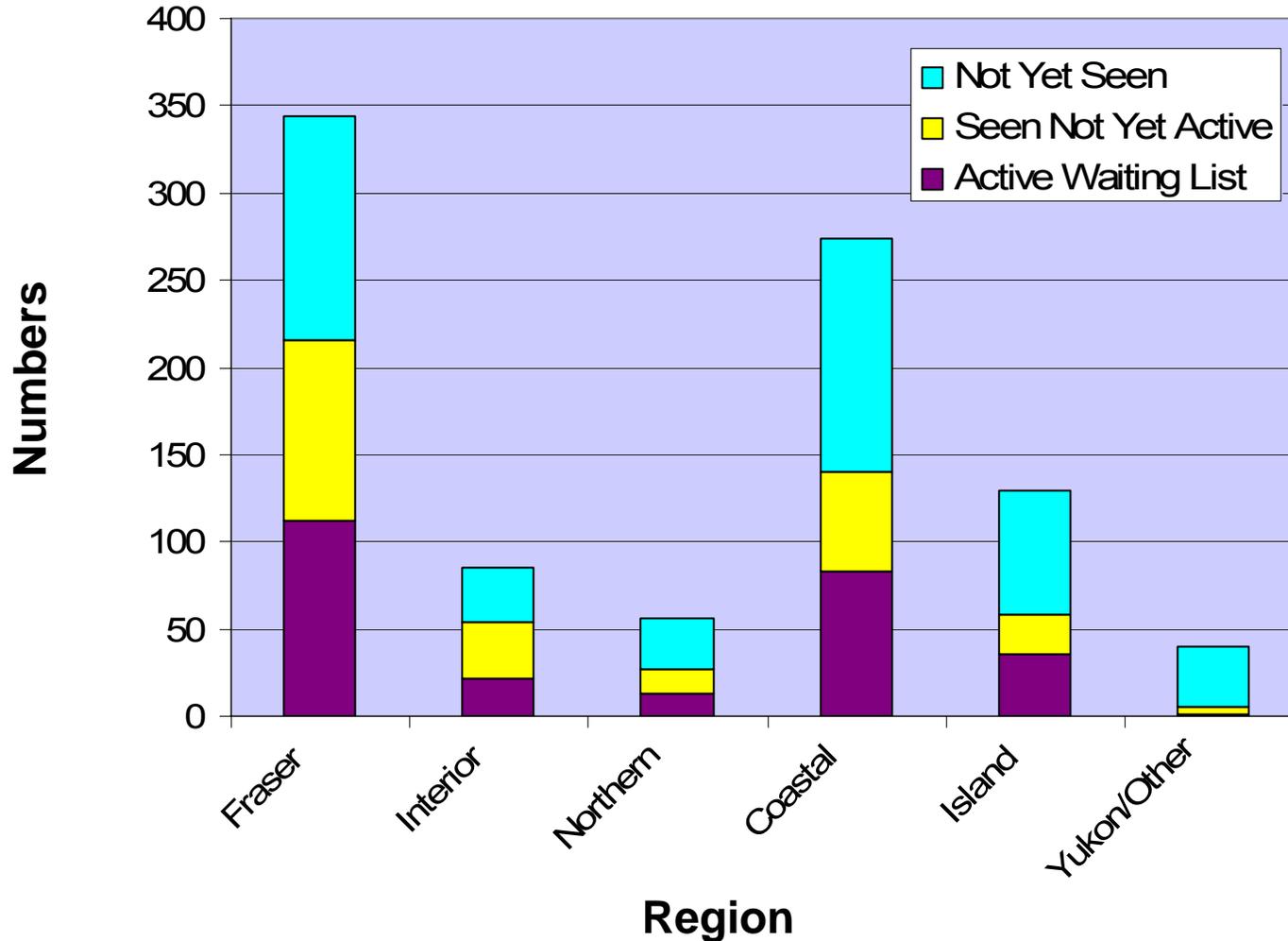
- Early referral
- Eligibility for transplant
- Pre-emptive transplant
- Paired donation
- Manpower
- Continuing education

Active Wait List BC 2006



Data Courtesy of Yvonne Sun BCTS

True Wait List Numbers in BC 2006 = 928



Data Courtesy of Yvonne Sun, BCTS

Early Referral

- Opportunity for live donation with better graft function
- Potential for avoidance of dialysis
- Better physical, emotional, fiscal health
- Refer when GFR approx 25 ml/min

Tx Eligibility

- Requisite data (esp cardiac, background on other co-morbid conditions)
- Malignancy
- Psychiatric/psychologic readiness
- PTH surgery?



"An Agency of the Provincial Health Services Authority"

Renal Transplant Referral Form

Referred to: VGH SPH BCCH

Last name: _____ First name: _____

Other name: _____ PHN: _____

DOB: _____ (mm/dd/yy) Sex: male female Race: _____

Address: _____ Postal Code: _____

Home phone: _____ Office phone: _____

Contact name: _____ Relationship: _____ Phone: _____

General Practitioner: _____ Phone: _____ Fax: _____

Address: _____

Referring Nephrologist: _____ Phone: _____ Fax: _____

Diagnosis: _____

Dialysis Regimen: _____ Dialysis Unit: _____

Dialysis start date: _____

If Haemo: what days? _____ what time? _____

Height: _____ Weight: _____ ABO: _____

Referring Centre: _____ Social Worker involved? _____

Does the patient speak English? Yes No, if no what language? _____

Special needs? _____ Ambulatory? _____

Please Mail to: (✓ check one)

Lorraine Blackburn
Clinical Coordinator
Kidney/Kidney/Pancreas/Islet Cell Program
British Columbia Transplant Society
West Tower, 3rd Floor
555 West 12th Avenue
Vancouver, BC V5Z 3X7
Phone: 604 877-2240
Fax: 604 877-2111

Patricia Midford
Clinical Nurse Leader &
Patient Educator
Renal Pre-Transplant Program
St. Paul's Hospital
1081 Burrard Street
Vancouver, BC V6Z 1Y6
Phone: 604 806-9078
Fax: 604 806-8076

Gee Wigle
Transplant Nurse Clinician
BC Children's Hospital
Bldg. K, 4th floor, Rm. 172
4480 Oak Street
Vancouver, BC V6H 3V5
Phone: 604 875-3604
Fax: 604 875-2943



"An Agency of the Provincial Health Authority"

Checklist for Accompanying Information

Patient Name: _____ DOB: _____

A) Please include: medical history

- Information regarding medical history (i.e. cancer, CVA, chronic infection).
- Discharge summaries and consult notes.
- Exam results: including cardiac studies, blood work, etc.
- Regular Mammogram/PAP/Prostate/Testicular exam?
- Dental information; i.e. regular exams? concerns?
- Other Specialists involvement? (i.e. endocrinologist, cardiologist, ophthalmologist). Please include notes.
- Psychosocial concerns and notes.

B) In order to accelerate the assessment of your patient, please arrange the following tests as necessary: **Refer to Clinical Guidelines**

- Echocardiogram
- MIBI (Persantine or exercise)
- If Hepatitis C positive or Hepatitis B positive:
 - LFT's (AST, ALT, Alk Phos, GGT, INR, Protein, Albumin, AFP)
 - Abdominal ultra sound (with doppler, if available), to assess for visceromegaly and portal hypertension

C) If patient is to be considered for pancreas/kidney transplant, please submit referrals to the BCTS programme c/o Lorraine Blackburn in order to accelerate the process.

D) Have you discussed Living Donation with this patient? Yes _____ No _____

Who are the potential donors? _____

Preemptive Transplant

Theoretical advantages:

- Avoid prolonged renal failure and its concomitants (esp CVS disease)
- Data to support improved patient function and survival
- Link to diminished cardiovascular risks with successful transplantation
- Global economic benefit

Preemptive Transplant

Possible disadvantages:

- Failure to maximize native renal function
- Lose advantage of reduced immunity of uremia
- Potential for earlier than necessary exposure to immunosuppressive agents
- Does not allow potentially non-compliant patients to understand the hardships of dialysis

Preemptive Transplant

- So what's the evidence?

Preemptive Transplant

- Review of UNOS data base, cross-referenced with USRDS 1995-1998
- n of 38,836
- Frequency of preemptive tx overall 13.8%
 - 7.7% for DD
 - 24.0% for LD
- These numbers stable over period of observation

Preemptive Transplant

- Lower rate of delayed graft function compared to non-preemptive tx for
DD: 8.4% vs 25.6%; $p < 0.001$
LD: 2.6% vs 6.1%; $p < 0.001$

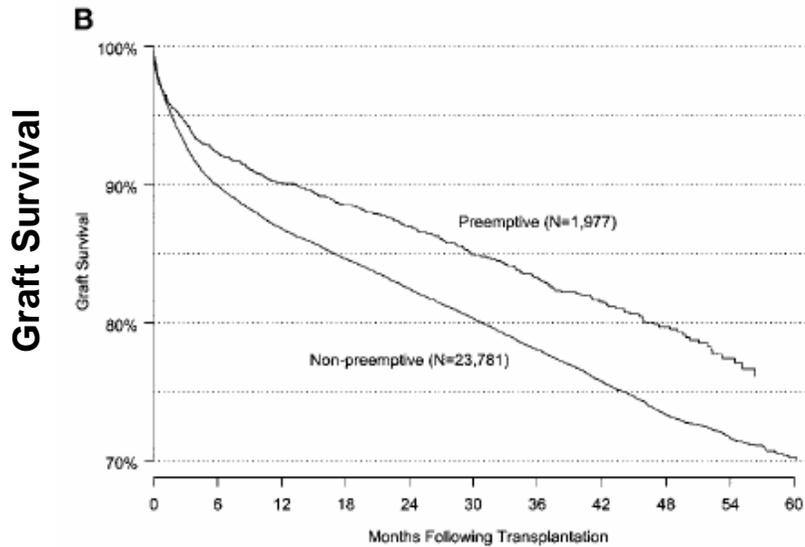
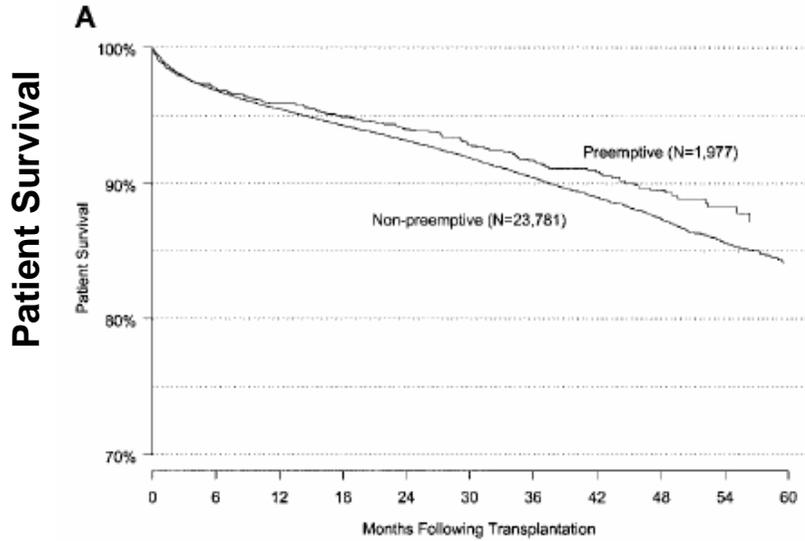
Preemptive Transplant

More likely if:

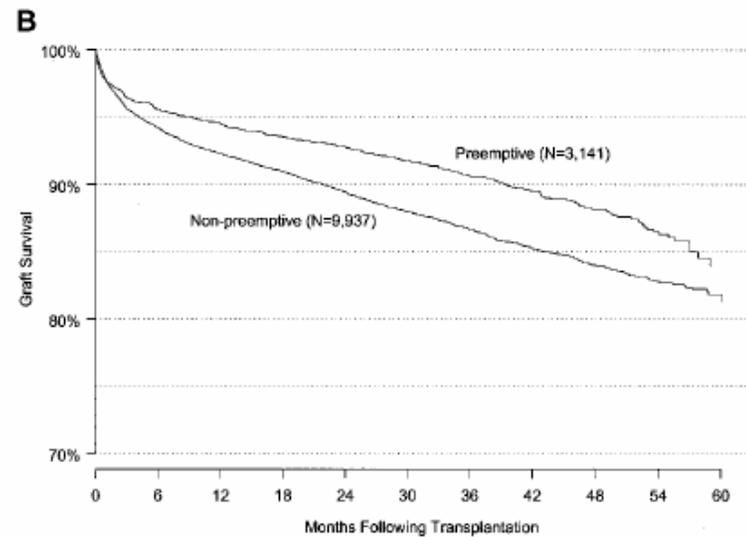
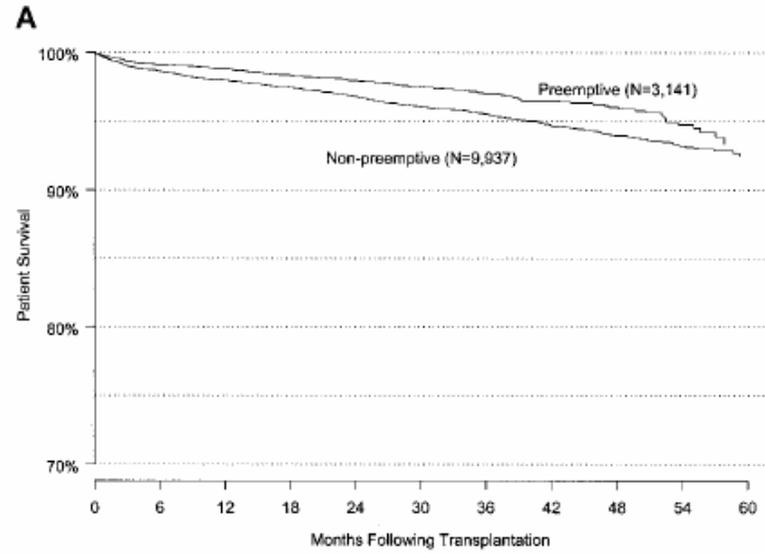
- LD available
- Younger than 18 yo
- White; not Hispanic
- Better educated
- Working full time
- Not Medicare
- 0-1 HLA mismatches

Data from 1995-1998

Deceased Donor



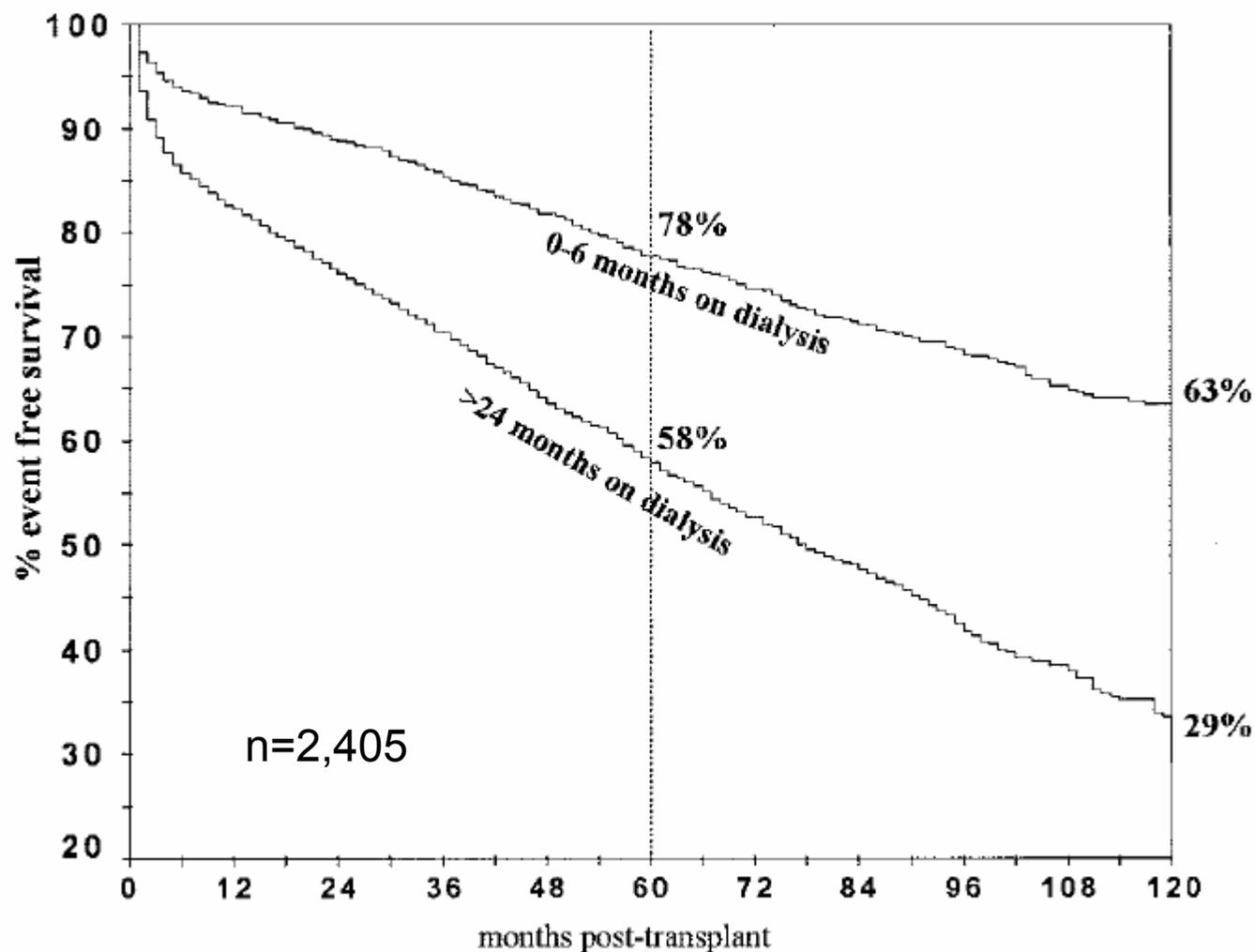
Living Donor



Preemptive Transplant

- Effort to quantify risk of dialysis time pre-tx
- Tried to establish risk independent of donor factors
- Analyzed USRDS database from 1988-1998
- Looked at 2405 paired kidneys from same donor implanted into 2 grps of recipients:
 - i) on dialysis ≤ 6 mo (incl preemptive)
 - ii) on dialysis ≥ 2 years

Unadjusted graft survival of paired kidneys



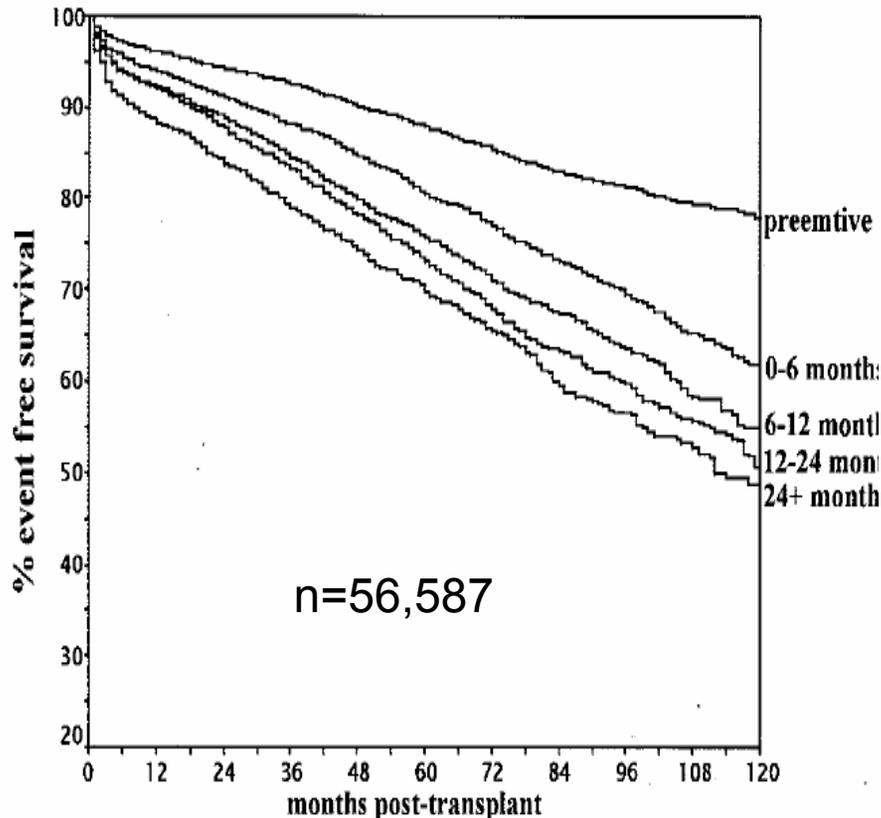
From: Meier-Kriesche and Kaplan; *Transplantation* 2002; 10: 1377.

Preemptive Transplant

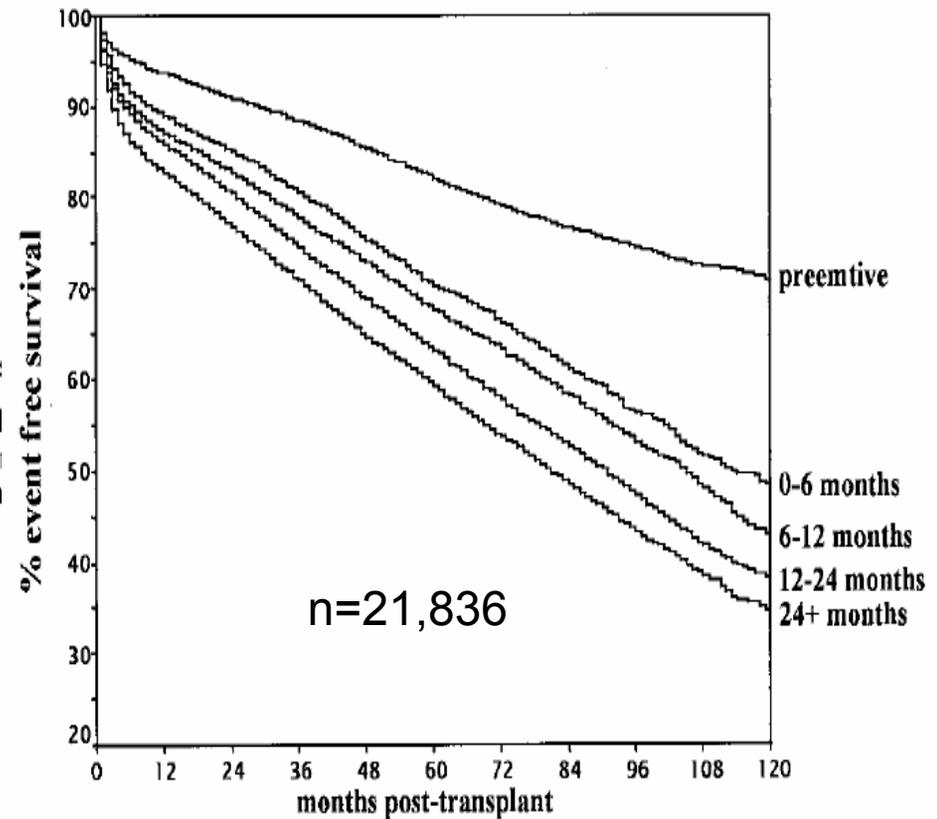
- Also examined “dose” of ESRD in 77,000

Unadjusted graft survival by length of dialysis treatment before transplant

Living donors



Deceased donors



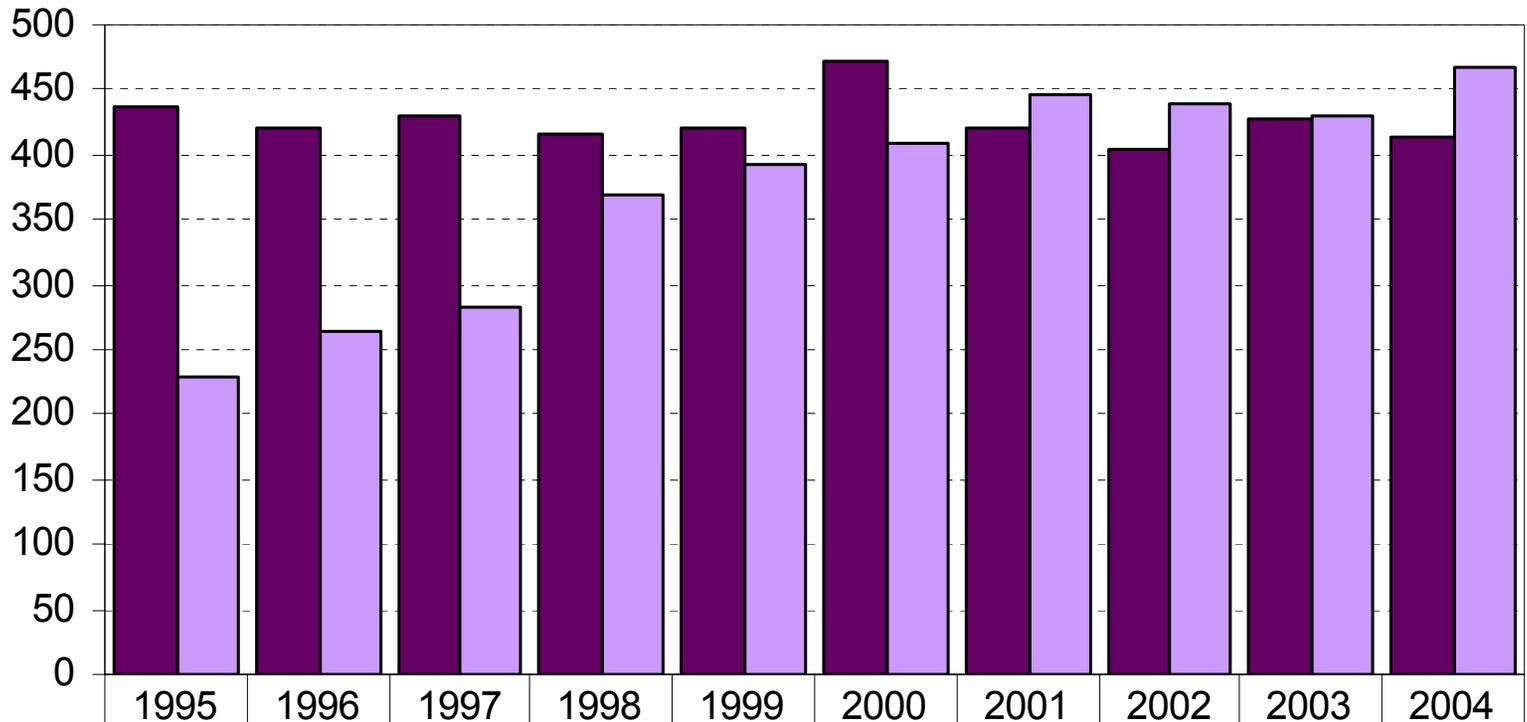
Preemptive Transplant

- NB significant loss of LD advantage with time on dialysis
- Even so, further analysis demonstrated survival advantage of successful transplantation compared to those on the wait list

Preemptive Transplant

- Similar findings in earlier single centre studies, in pediatrics
 - All support preemptive transplant or transplant vs dialysis for its beneficial effects on graft and patient survival
-
- Mange et al NEJM 2001, 344: 726
 - Meier_Kriesche et al Kidney Int 2001,58: 1311
 - Vats et al Transplantation 2000, 69: 1414
 - Wolfe et al NEJM 1999, 341: 1725
 - Cosio et al Kidney Int 1998 53: 767

Organ Donors,¹ Canada, 1995-2004 (Number)

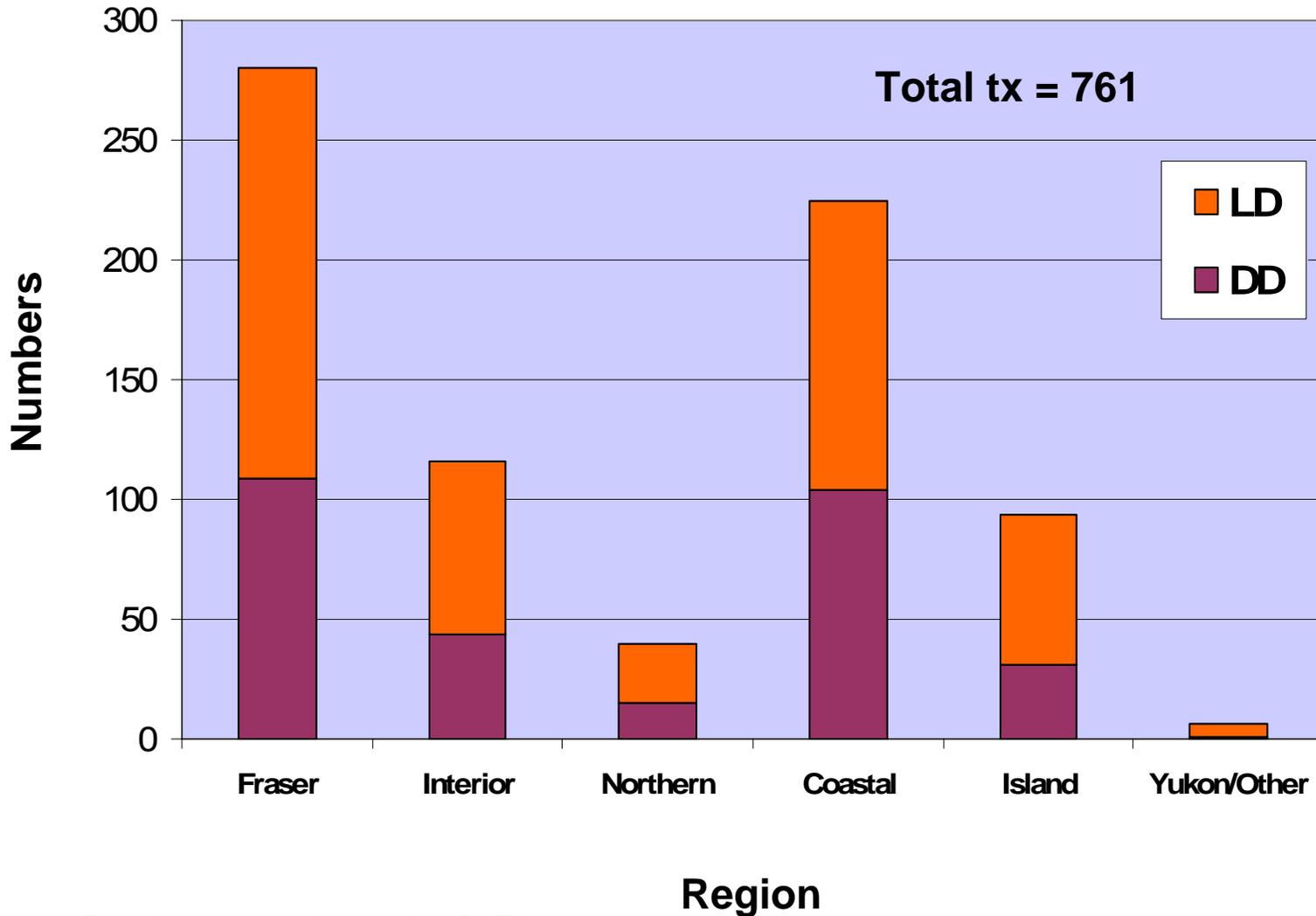


■ Deceased	437	420	429	415	421	471	420	405	428	414
■ Living	230	265	283	368	392	409	447	440	431	468

¹ Deceased donors are defined as donors originating in Canada where at least one solid organ was used for transplant. Data are from Quarterly Reports provided by Canadian OPOs.

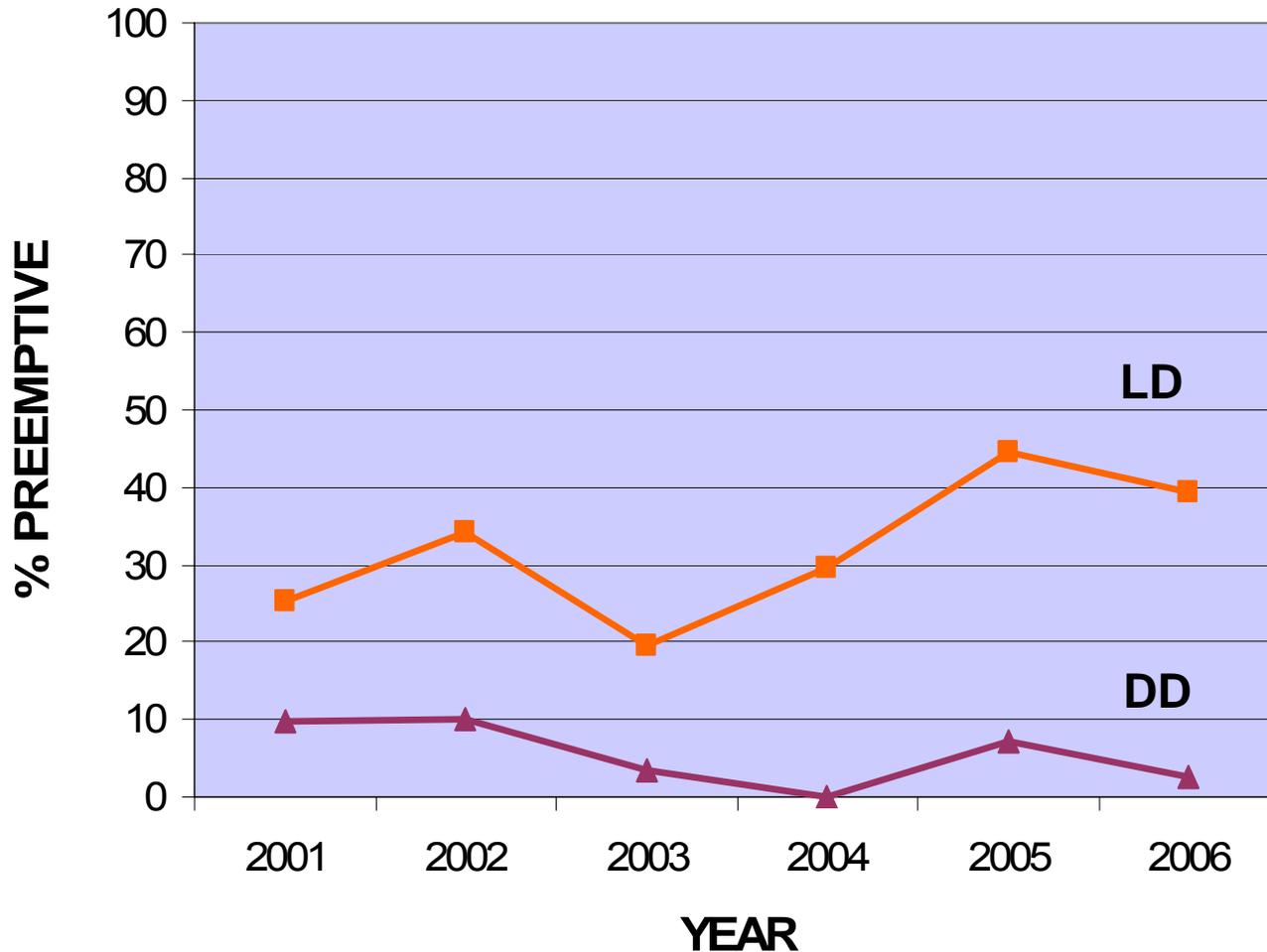
Source: Canadian Organ Replacement Register, Canadian Institute for Health Information (2005)

Kidney Transplants by Health Authority since 2001



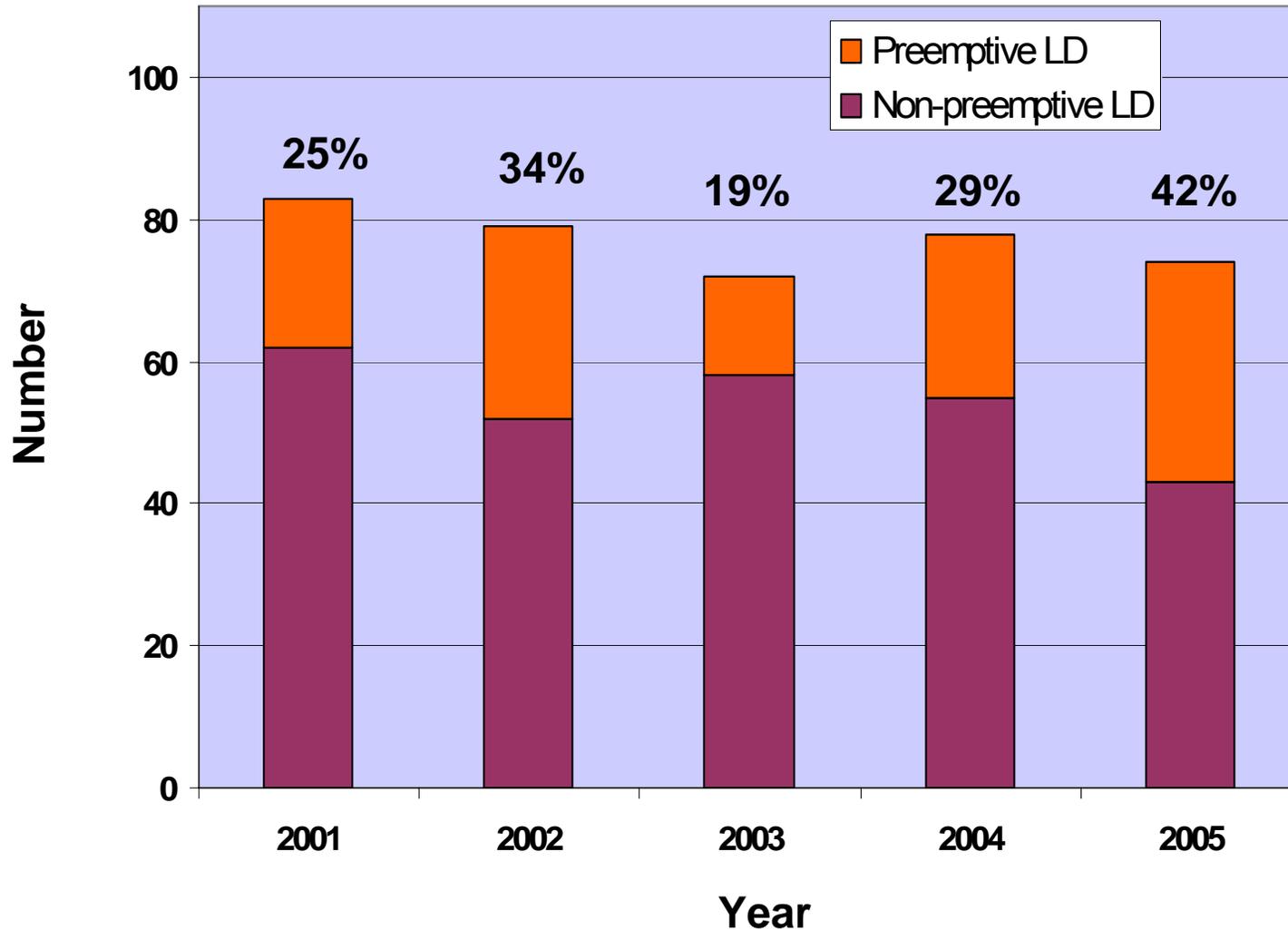
Data Courtesy of Yvonne Sun BCTS

Percent Preemptive Transplantation in BC



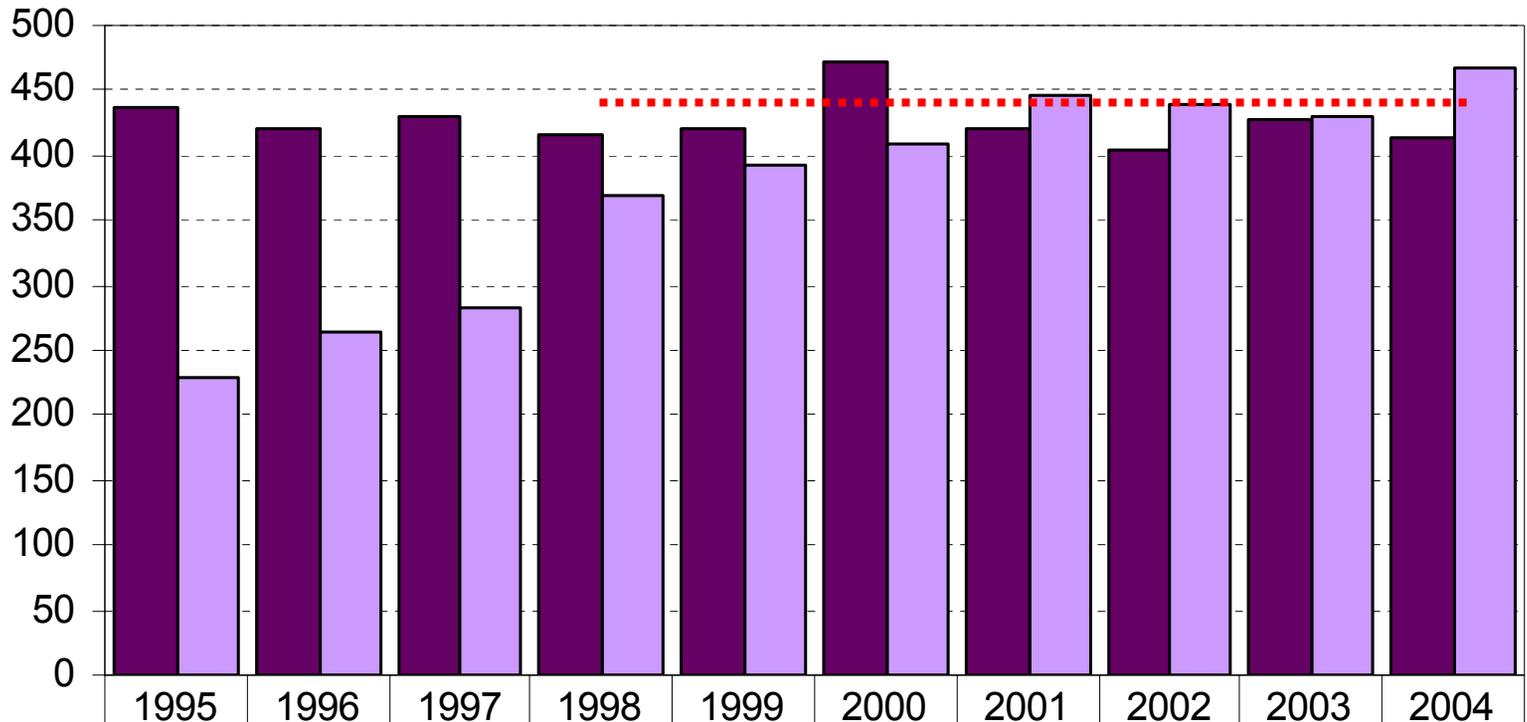
Data Courtesy of Yvonne Sun BCTS

Proportion of preemptive LD transplants



Data Courtesy of Yvonne Sun BCTS

Organ Donors,¹ Canada, 1995-2004 (Number)



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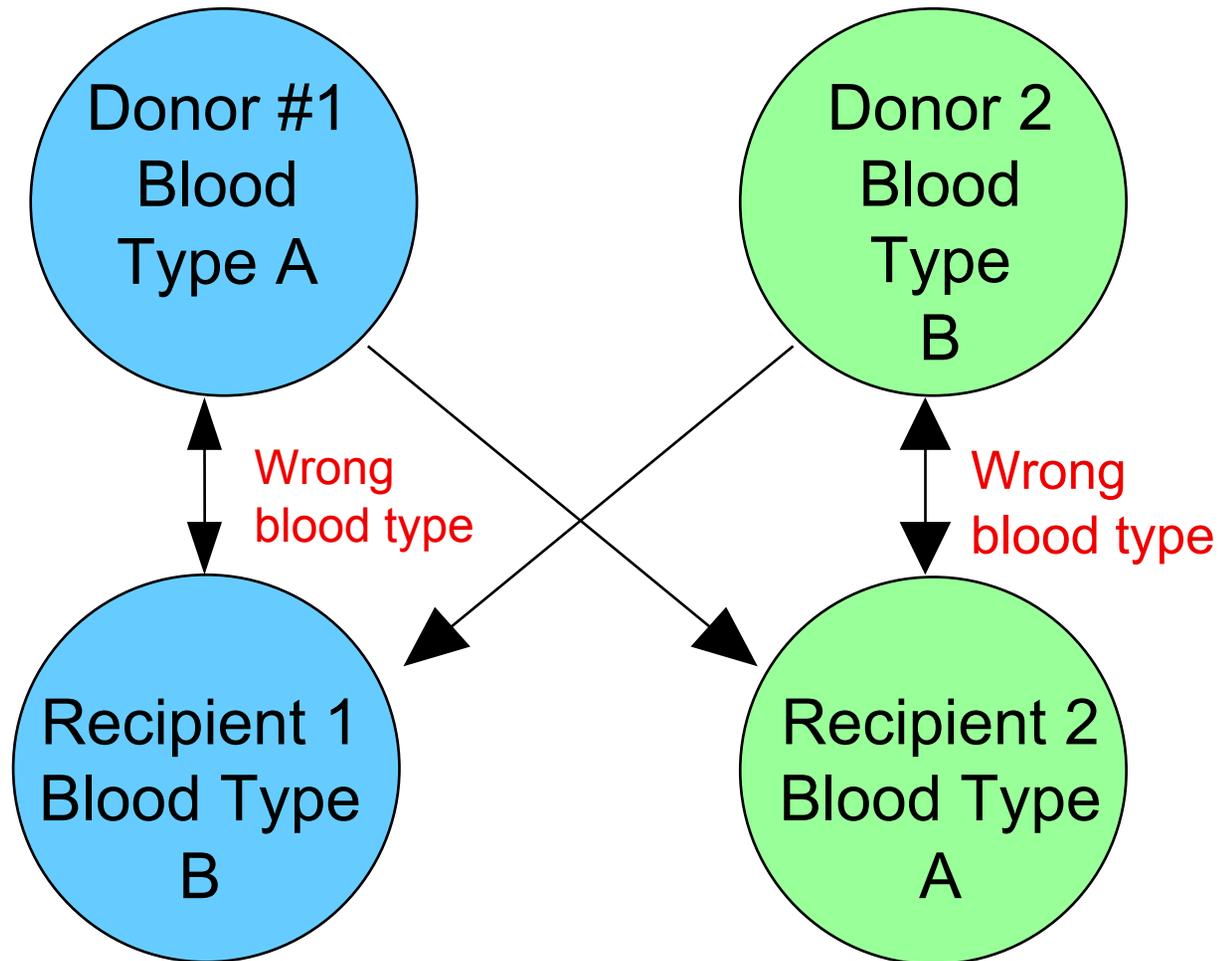
Issues

- LD rates reached a plateau
- Related to:
 - resources (human, \$\$\$)
 - reticence to refer
 - perceived lack of donor
 - perceived incompatible donor
 - economic barriers
 - educational gap

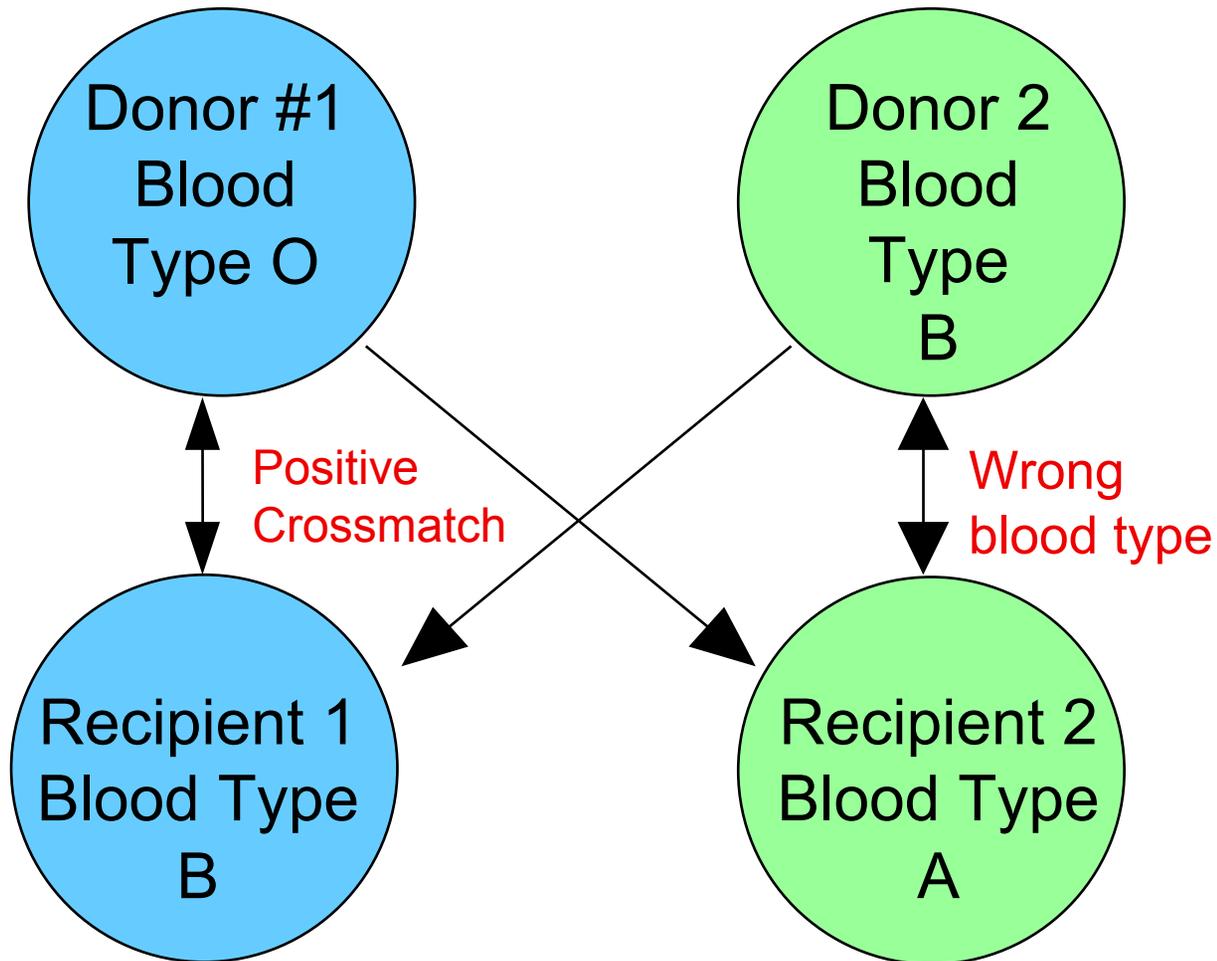
Paired exchange

- Coming soon to a theatre near you ...
- Increase donor pool by a few, but still helpful
- Applies to ABO incompatible as well as crossmatch positive donor/recipient pairs

ABO INCOMPATIBLE EXAMPLE



POSITIVE CROSSMATCH EXAMPLE



Manpower

- Surgical
- Medical
- Coordinator
- Support/clerical
- Ancillary (radiology, laboratory, etc)
- New programs (failing graft clinic)

Continuing Education

- Different models:
 - Plenary
 - Outreach
- Frequency
- Content: Operational vs strictly educational; inbred vs outbred

Summary -1

- Goal is to increase renal transplantation in BC, both living donor and deceased donor
- Preemptive transplantation offers superior GS and PS and should be the standard
- In CKD clinics, first referral in appropriate patients should be to transplant; should be considered when GFR 25 ml/min
- Will require significant shift in how we do business in BC

Summary -2

- Initiatives underway at local, provincial, and national levels
 - for DD the presence of organ donor coordinators on site
 - economic support for donors (housing)
 - proposal of legislation at federal and provincial levels re tax breaks
- Will require increased resources if successful