INTRODUCTION: Kidney paired donation is an evolving strategy for achieving living donor kidney transplants for candidates with willing, but incompatible living donors. We report a new approach in which altruistic donors facilitated by the Alliance for Paired Donation.

METHODS: Eleven transplant centers in nine states have transplanted incompatible donors. AD kidneys are used to start non-simultaneous chains of incompatible living donors. We report a new approach in which altruistic donors facilitated by the Alliance for Paired Donation.

RESULTS: Six NEAD chains have been initiated resulting in 20 transplants from six altruistic donors. Six NEAD chains have been initiated resulting in 20 transplants from six altruistic donors facilitated by the Alliance for Paired Donation.

CONCLUSIONS: The number of transplants performed as a result of ADs can be significantly enhanced by a program that allocates these kidneys to kidney transplant candidates with willing, but incompatible living donors in NEAD chains.

Figure 1. Consequences of Reneging in a Conventional Two-way Paired Donation and in a Nonsimultaneous, Extended, Altruistic-Donor Chain.

Figure 2. Example Matches in a Conventional Paired Donation and in a Nonsimultaneous, Extended, Altruistic-Donor Chain.

Figure 3. Example Matches in a Conventional Paired Donation and in a Nonsimultaneous, Extended, Altruistic-Donor Chain.

Figure 4. Example Matches in a Conventional Paired Donation and in a Nonsimultaneous, Extended, Altruistic-Donor Chain.

Figure 5. Example Matches in a Conventional Paired Donation and in a Nonsimultaneous, Extended, Altruistic-Donor Chain.

Figure 6. Example Matches in a Conventional Paired Donation and in a Nonsimultaneous, Extended, Altruistic-Donor Chain.

Conclusions

1. NEAD Chains have allowed for 20 transplants from six altruistic donors facilitated by the Alliance for Paired Donation.

2. Twelve of twenty (60%) have a PRA over 60%.

3. NEAD Chains increase the quantity AND quality of paired donation transplants compared with simultaneous exchanges.

4. The longest “bridge donor” donated after a 10 month wait.

5. No bridge donor has reneged.

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Figure 2. Consequences of a Donor’s Reneging in a Conventional Paired Donation and in a Nonsimultaneous, Extended, Altruistic-Donor Chain. Reneging in a conventional two-way paired donation (Panel A) permanently harms Pair 2 because the recipient in that pair does not receive a kidney and has lost the opportunity to participate in a future paired donation. Reneging in a paired donation that is part of a nonsimultaneous, extended, altruistic donor (NEAD) chain (Panel B) does not permanently harm Pair 2, since the donor in that pair has not yet donated a kidney, and the pair can be matched again. In this example, squares are compatible with squares but not with circles, and circles are compatible with circles but not with squares. A black arrow represents a donation by a living donor, a broken red arrow represents reneging on a donation, and the red X represents a donor who has donated a kidney and is no longer able to help the recipient in their pair through paired donation. AD denotes altruistic donor, D donor, and R recipient.