

## Adjusted Donor Age – Validity and Influence on Deceased Donor Offer Decisions

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### Background:

Although a number of donor factors are known to affect outcome following deceased donor kidney transplantation, many units have no clear criteria for acceptance. Existing donor scoring systems, such as KDRI, perform poorly in the modern comorbid donor pool, and are difficult for patients to understand. Adjusted Donor Age (ADA) is a patient-friendly scoring system in which donor age is modified according to the presence or absence of a number of risk factors, and categorised by ADA decade (using cut-offs at 50, 60, 70 and 80 years) into quintiles (A – E) representing increasing donor risk (A – C favourable, D marginal, and E unfavourable).

### Methods:

All deceased-donor kidney offers at a single centre were analysed over a 3 month period (beginning after the September change in UK organ allocation) during which ADA was optionally available to clinicians at the time of considering the offer. The effect of ADA on acceptance decisions and outcome in those transplanted were analysed.

### Results:

Out of 230 offers median(IQR) ADA was 67(56–76). Kidneys were transplanted in 24%, declined due to concern over donor risk in 44%, with recipient and other factors responsible for non-transplantation in 32%. In those identified as favourable by ADA (quintiles A – C, without exclusion factors), organs were rejected due to donor risk in 28/104 offers (27%), compared to 50/186 (27%) in the 2018 cohort. In those identified as unfavourable by ADA (quintile E) organs were transplanted in 0/38 offers (0%), compared to 10/66 (15%) in the 2018 cohort.

At 1 month post-transplantation (N=55, from quintiles A – D only, since no organs from quintile E were accepted) one recipient remained dialysis dependent (from quintile D). In those with functioning transplants (N=54) recipient GFR was strongly correlated with ADA (R=0.52, p<0.001) and was seen to reduce across quintiles A – D (74, 55, 43 and 38ml/min/1.72m<sup>2</sup>).

### Conclusion:

ADA is a patient-friendly score, calculated from donor age but adjusted for 12 potential risk factors, which can be used to guide acceptance decisions. At this early stage of familiarity, clinicians appear to be more persuaded by an unfavourable ADA quintile, than a favourable one. In this validation cohort, ADA strongly predicts early post-transplant outcome.