# COMPARISON OF SURVIVAL RATES AMONG KIDNEY TRANSPLANT CENTRES

We present a visual comparison of survival rates among centres that is based on a graphical display known as a funnel plot (1, 2). This display is used to show how consistent the rates of the different transplant units are with the national rate.
Funnel plots show the risk-adjusted survival rate plotted against the number of transplants for each centre, with the overall national unadjusted survival rate (solid line), and its 95% (thin dotted lines) and 99.8% (thick dotted lines) confidence limits superimposed. Each dot in the plot represents one of the centres.

Note that many patients return to local renal units for follow-up care after their transplant and although we report survival according to transplant unit, patients may in fact be followed up quite distantly from their transplant centre.

## Interpreting the funnel plots

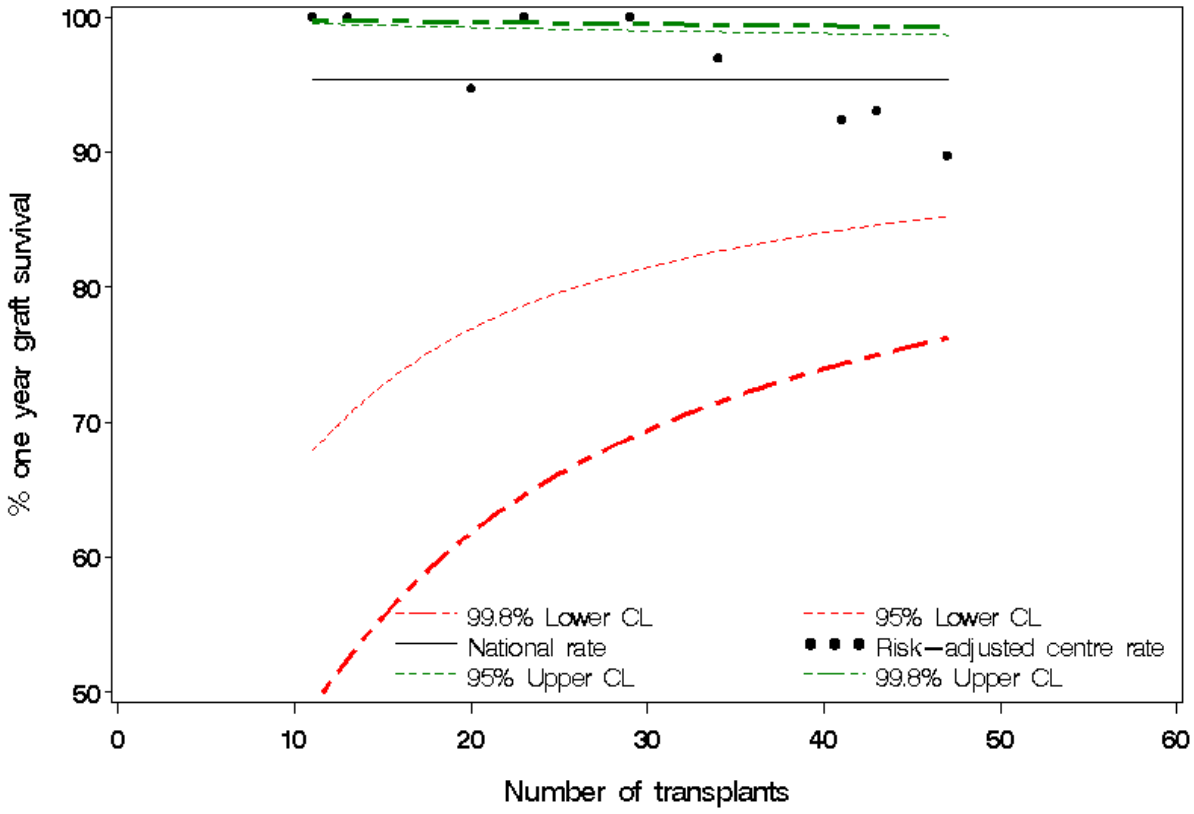
If a centre lies within all the limits, then that centre has a survival rate that is statistically consistent with the national rate. If a centre lies outside the 95% confidence limits, this serves as an alert that the centre may have a rate that is significantly different from the national rate. If a centre lies outside the 99.8% limits, then further investigations may be carried out to determine the reasons for the possible difference. When a centre lies above the upper limits, this indicates a survival rate that is higher than the national rate, while a centre that lies below the lower limits has a survival rate that is lower than the national rate. It is important to note that adjusting for patient mix through the use of risk-adjustment models may not account for all possible causes of centre differences. There may be other factors that are not taken into account in the risk-adjustment process that may affect the survival rate of a particular centre.

The funnel plots show that, for the most part, the centres lie within the confidence limits. None of the centres lie outside the lower 99.8% confidence limits for any of the survival rates, indicating that none of the centres have survival rates that are significantly lower than the national rate. Some of the funnel plots show some centres to be above the upper 99.8% confidence limit. This suggests that these centres may have survival rates that are considerably higher than the national rate.

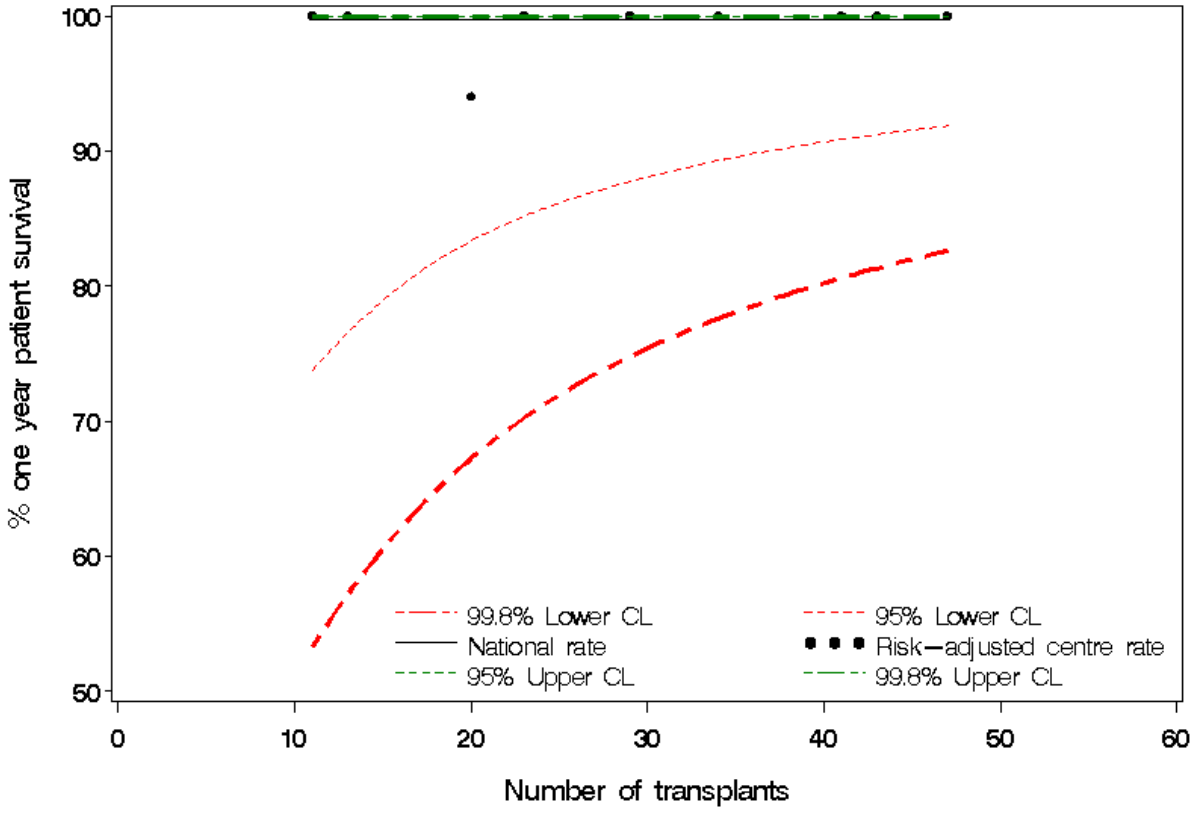
## References


1. Tekkis PP, McCulloch P, Steger AC, Benjamin IS, Poloniecki JD. Mortality control charts for comparing performance of surgical units: validation study using hospital mortality data. *British Medical Journal* 2003; 326: 786 – 788.
2. Stark J, Gallivan S, Lovegrove J, Hamilton JRL, Monro JL, Pollock JCS, Watterson KG. Mortality rates after surgery for congenital heart defects in children and surgeons' performance. *Lancet* 2000; 355: 1004 – 1007.

Risk–adjusted one year graft survival rates for deceased donor kidney transplants in paediatric patients, between 1 January 2006 and 31 December 2010




Risk–adjusted one year patient survival rates for deceased donor kidney transplants in paediatric patients, between 1 January 2006 and 31 December 2010



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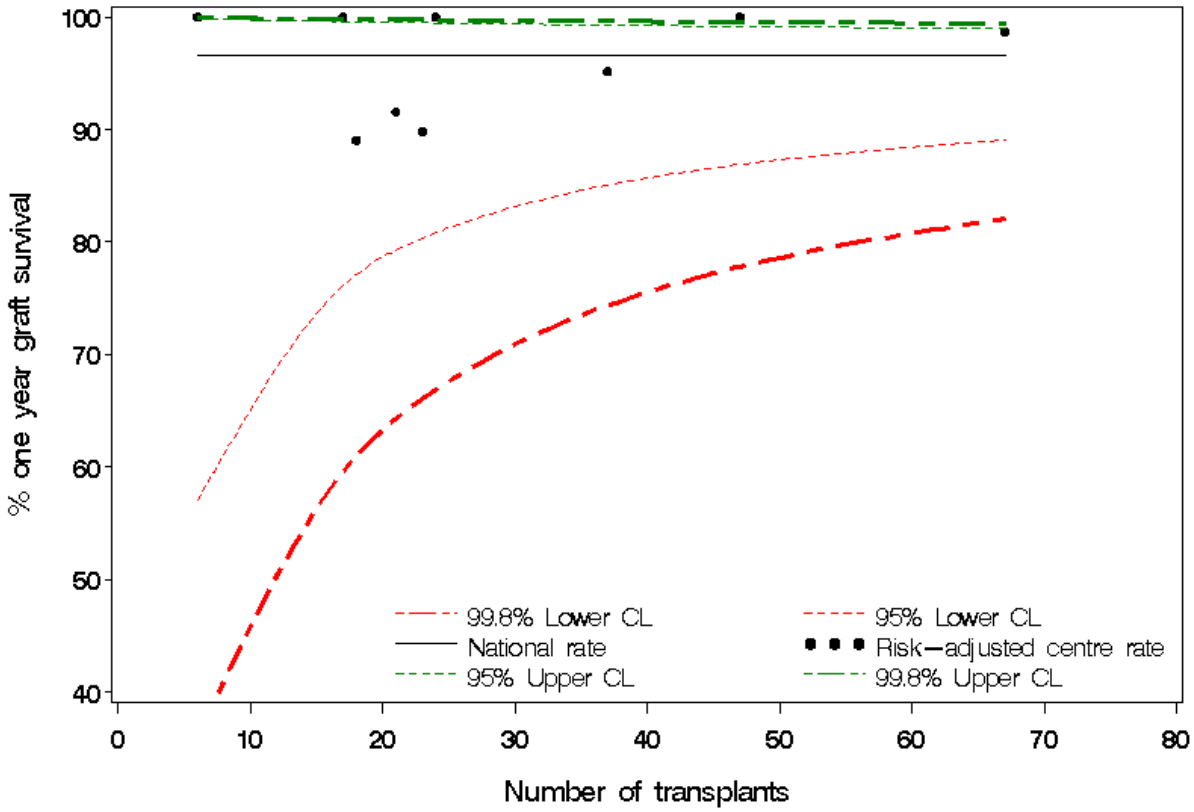


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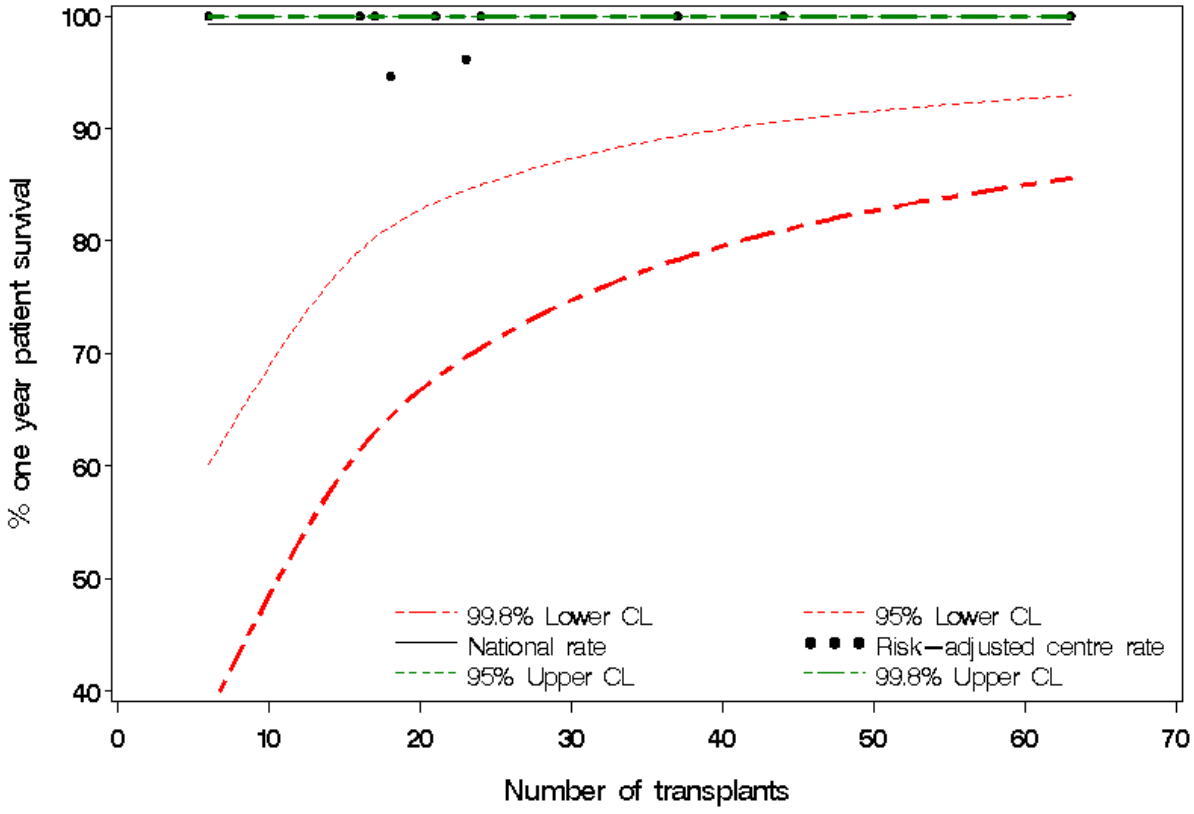
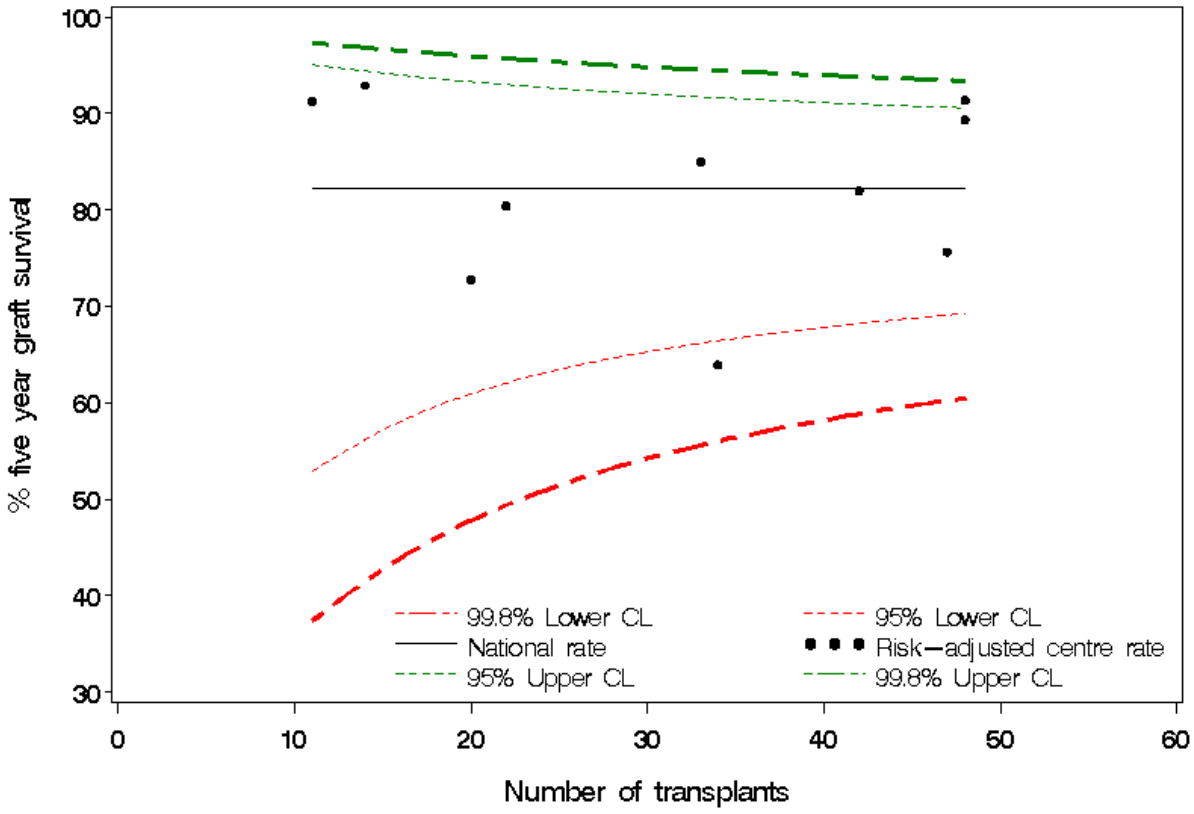
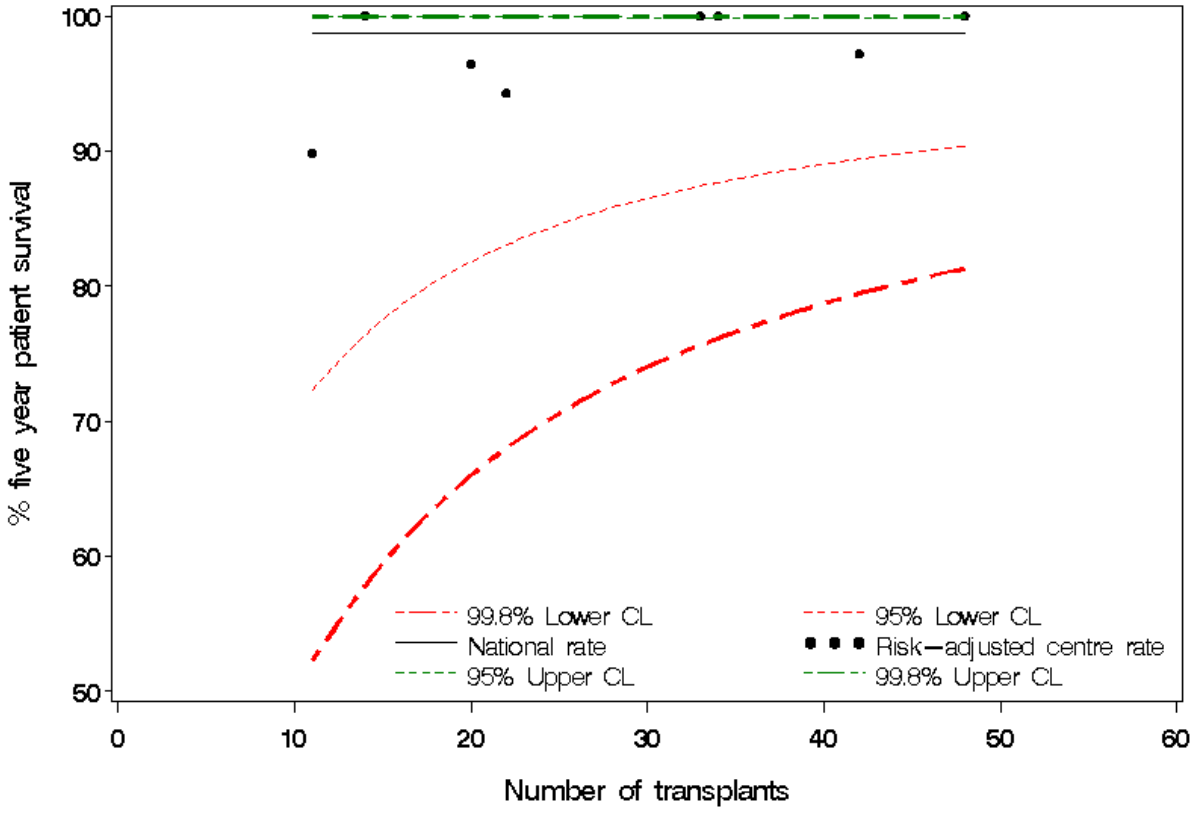


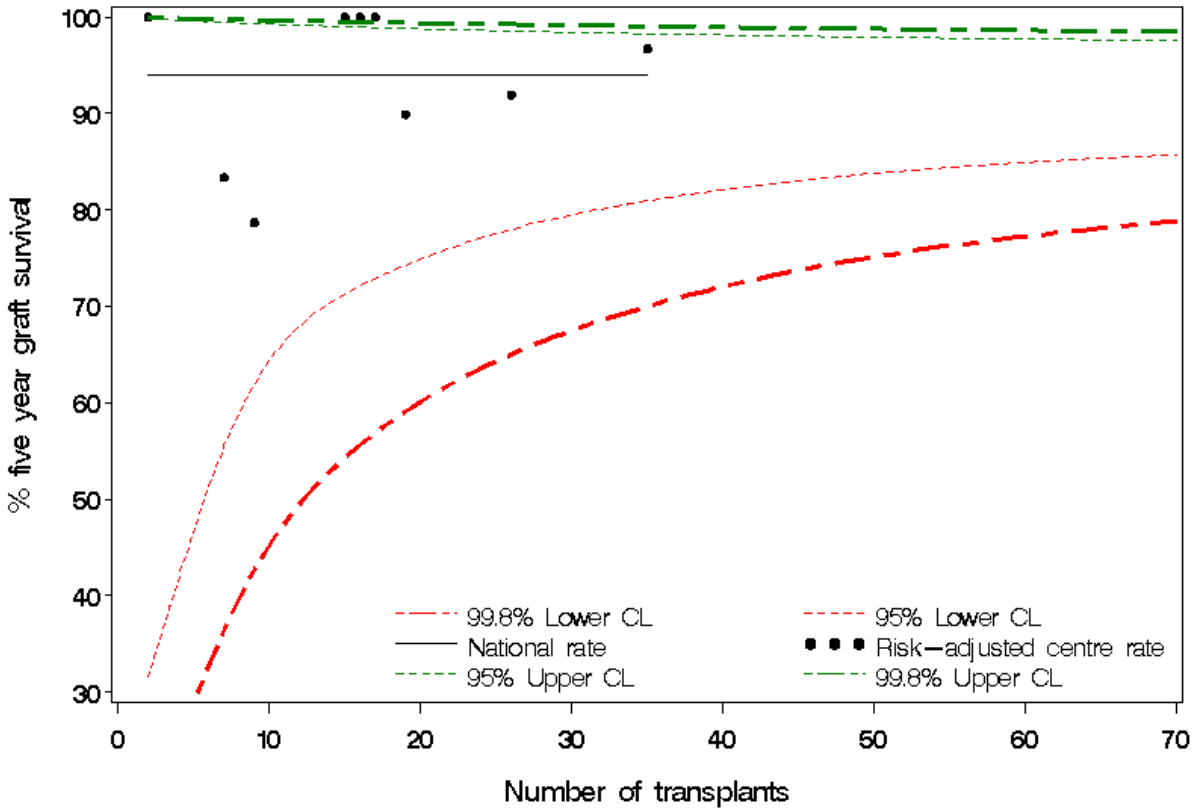
Risk–adjusted five year graft survival rates for deceased donor kidney transplants in paediatric patients, between 1 January 2002 and 31 December 2006




Risk–adjusted five year patient survival rates for deceased donor kidney transplants in paediatric patients, between 1 January 2002 and 31 December 2006



Risk–adjusted five year graft survival rates for live donor kidney transplants
in paediatric patients, between 1 January 2002 and 31 December 2006




Risk–adjusted five year patient survival rates for live donor kidney transplants
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