

NHS BLOOD AND TRANSPLANT

MULTI-VISCERAL AND COMPOSITE ADVISORY GROUP

PATIENT SURVIVAL AFTER INTESTINAL TRANSPLANT

INTRODUCTION

1. This regular paper reports on patient survival following deceased donor intestinal transplantation for transplants performed nationally. The period analysed was 1 January 2003 to 31 December 2018, in which 219 elective intestinal transplants were carried out in first time recipients. Follow-up data were available on the UK Transplant Registry (UKTR) as at 10 February 2019 for 209 (95%) patients. Note that this report excludes one living donor transplant performed at King's College in 2017.

DATA ANALYSIS

2. Kaplan-Meier survival curves were produced separately for paediatric and adult patients and within these cohorts, by transplant type and era. Short/medium-term survival rates are displayed within the plots. The results are based on small numbers and are not risk-adjusted so for these reasons should be treated as guidance only.
3. The key messages are:
 - 5 year survival rate estimates for paediatric and adult elective intestinal transplant recipients are 58.6% and 54.8%, respectively (**Figure 2**). **Figure 1** shows the respective 90 day and 1 year survival rate estimates. At each time point survival was quite similar between adult recipients and paediatric recipients.
 - When split by era, there was no evidence that short-term outcomes have improved over the analysis time period for paediatric transplant recipients (**Figure 3**) or adult transplant recipients (**Figure 6**).
 - Bowel only (BO) transplants appear to have superior outcomes compared with multivisceral (MV) or liver, bowel and pancreas (LBP) transplants and modified multivisceral (MMV) or bowel and pancreas (BP) transplants in both the paediatric and adult analyses, especially when analysed out to five years post-transplant which has been added for the first time in this report (**Figure 4, Figure 5, Figure 7 and Figure 8**). However, note that there were too few paediatric BP or MMV transplants to be included in **Figure 4**.
4. Additional information:
 - There have been seven super-urgent intestinal transplants performed in the UK to date in 6 different patients. Deaths have been reported for two of these patients (**Table 1 (removed as patient identifiable)**).
 - There have been 27 transplants including abdominal wall in the time period into 26 different adult patients: 16 bowel only and 11 MMV¹. Oxford performed 26 (96%) of these transplants with the remaining one at Cambridge. **Table 2 (removed as patient identifiable)** presents the causes of death of the abdominal wall recipients who died, of which there were nine. **Figure 9** shows the Kaplan-Meier survival curve for abdominal wall recipients where survival data are available (N=25), which is slightly lower than then curve for all adult patients (**Figure 1**).
 - A variety of causes of death have been reported to the UKTR for the 77 patients who are deceased following intestinal transplantation (**Table 3 (removed as patient identifiable)**).

ACTION

5. Members are asked to note that 90-day survival for adult recipients is no longer significant by era (**Figure 6**) which was noted previously. Timely provision of three-month and annual follow-up data will aid more accurate estimation of outcomes following intestinal transplantation.

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¹ In addition, we are aware of at least two cases of abdominal wall only registrations in the time period. Transplant and outcome data are not available for this type of transplants in the UKTR.

Figure 1 90 day and 1 year patient survival following intestinal transplantation, by age group

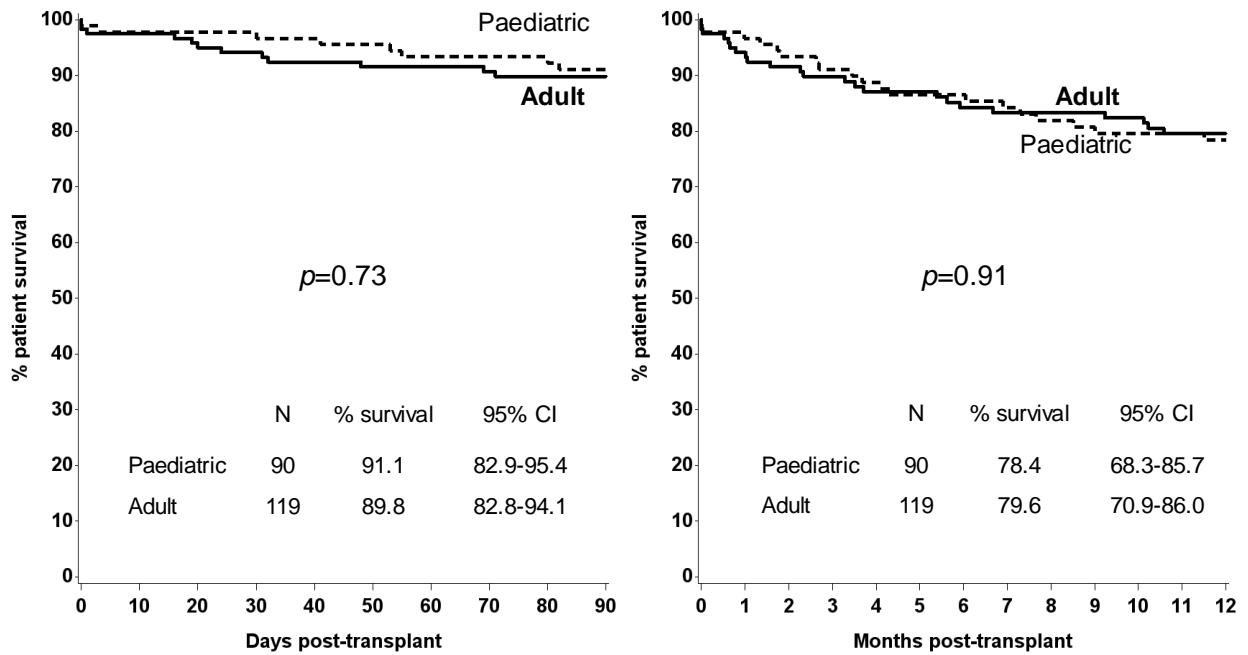
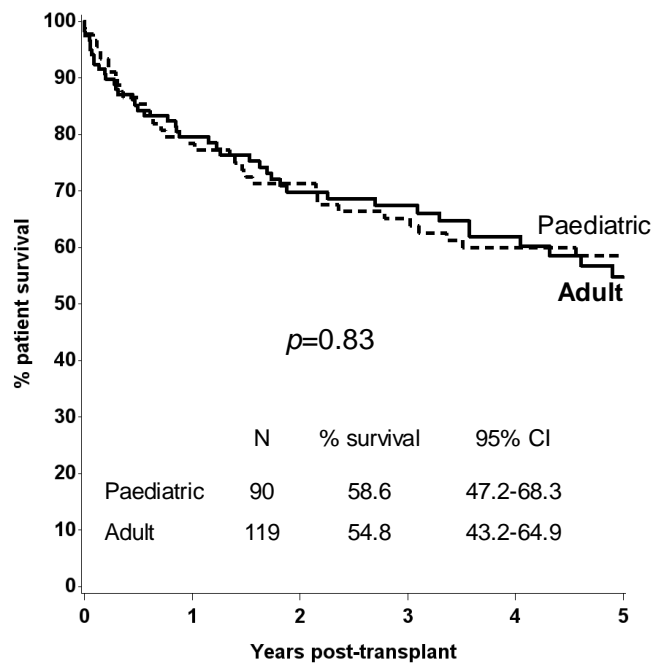


Figure 2 5 year patient survival following intestinal transplantation, by age group



PAEDIATRIC PATIENTS

Figure 3 90 day and 1 year paediatric patient survival following intestinal transplantation, by transplant era

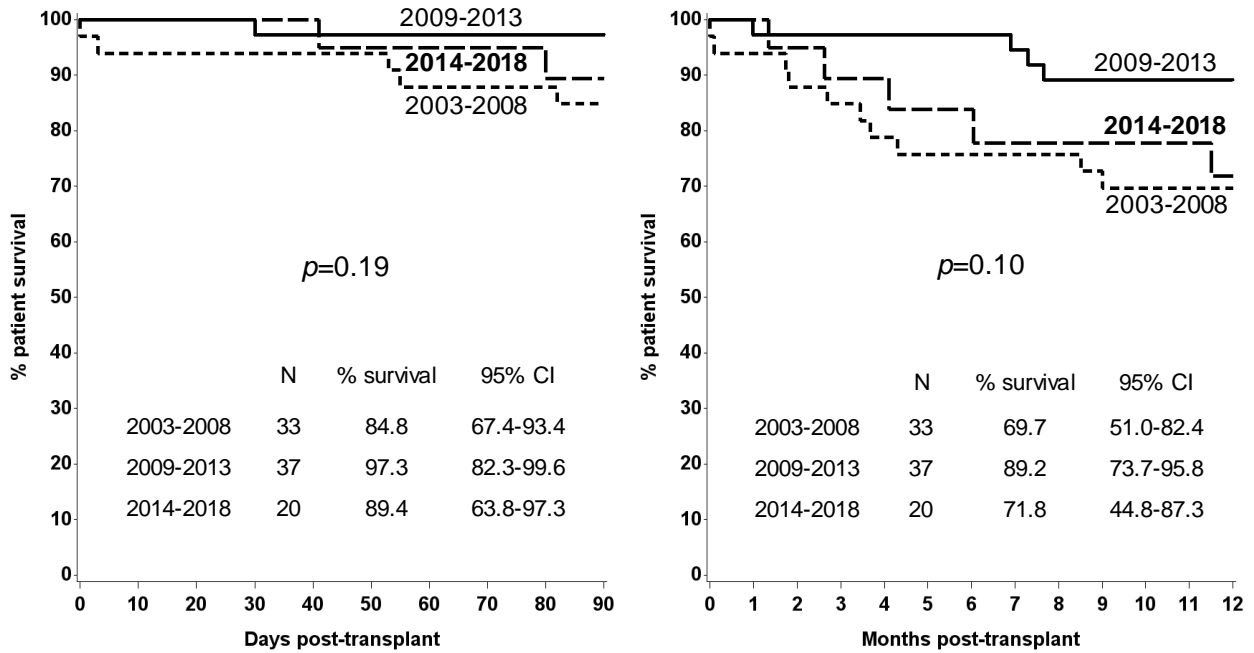


Figure 4 90 day and 1 year paediatric patient survival following intestinal transplantation, by transplant type

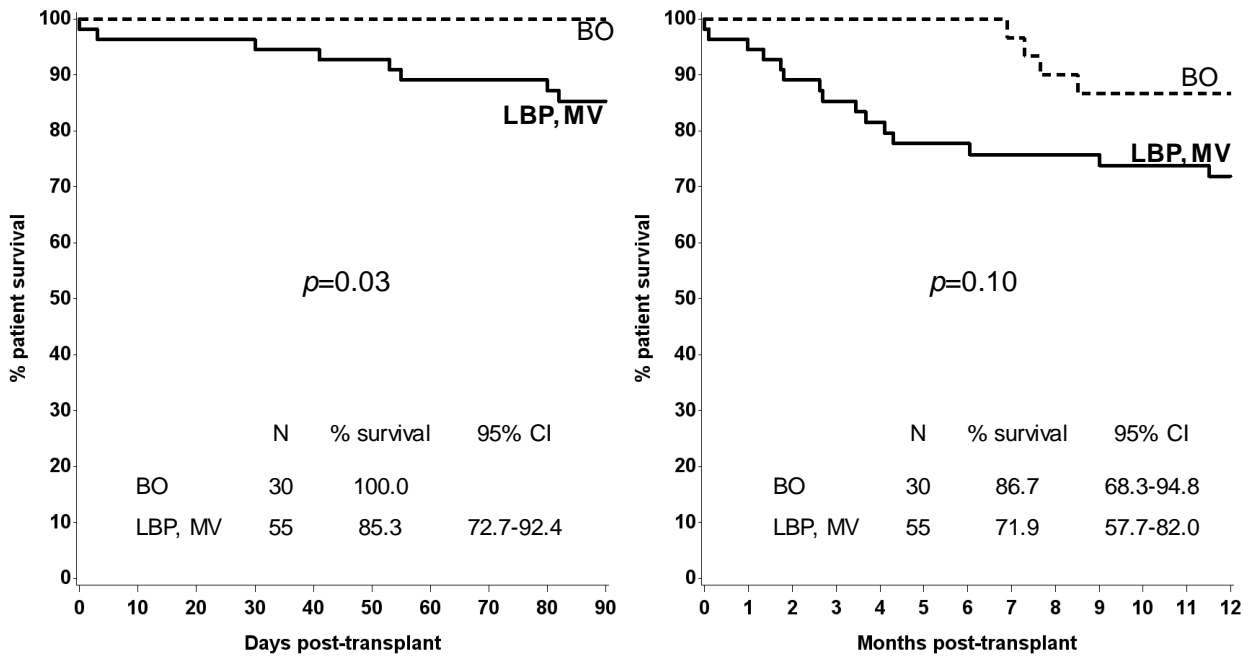
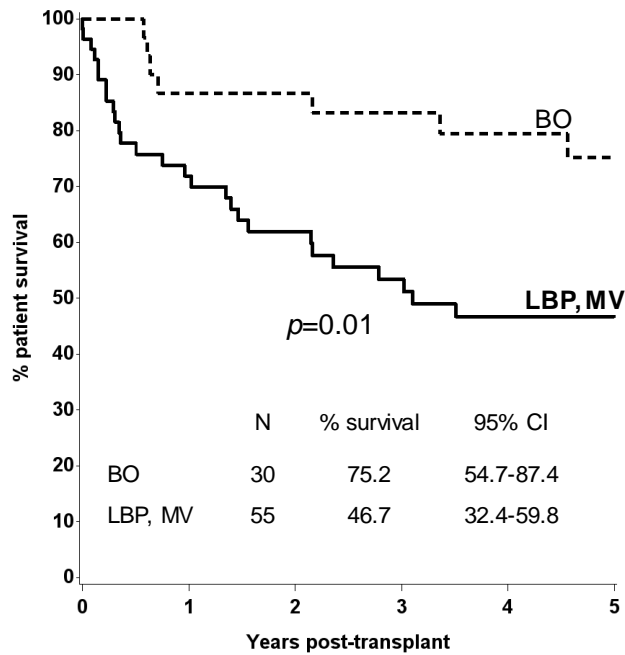


Figure 5 5 year paediatric patient survival following intestinal transplantation, by transplant type



ADULT PATIENTS

Figure 6 90 day and 1 year adult patient survival following intestinal transplantation, by transplant era

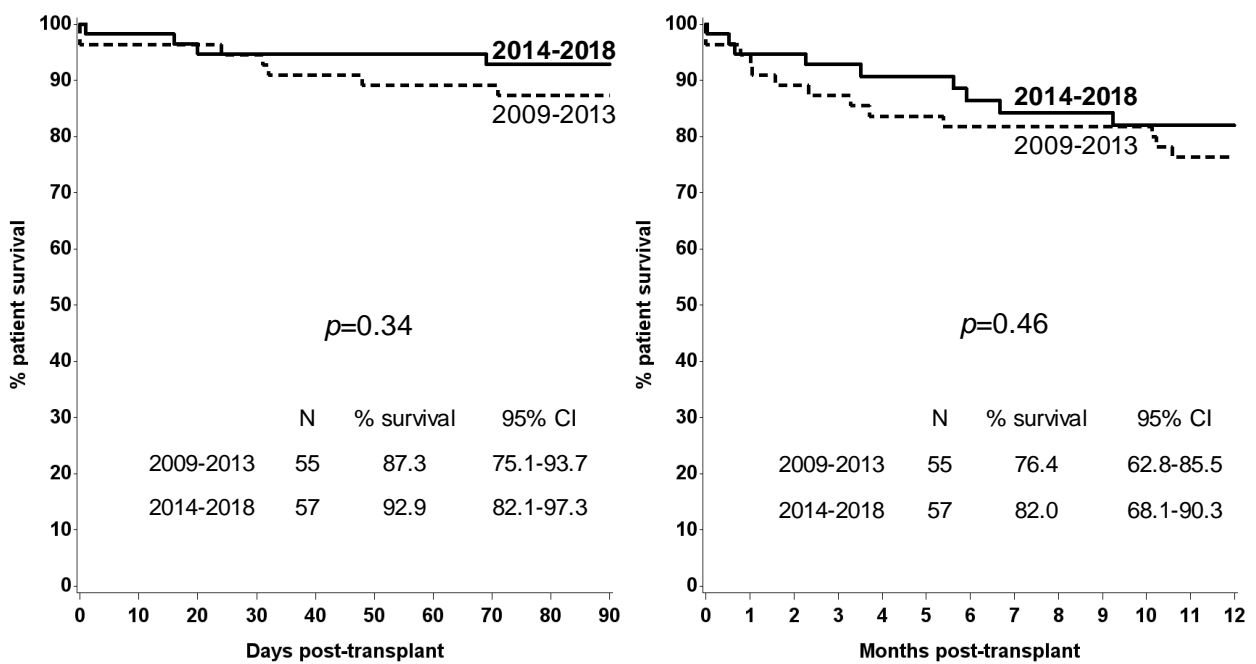


Figure 7 90 day and 1 year adult patient survival following intestinal transplantation, by transplant type

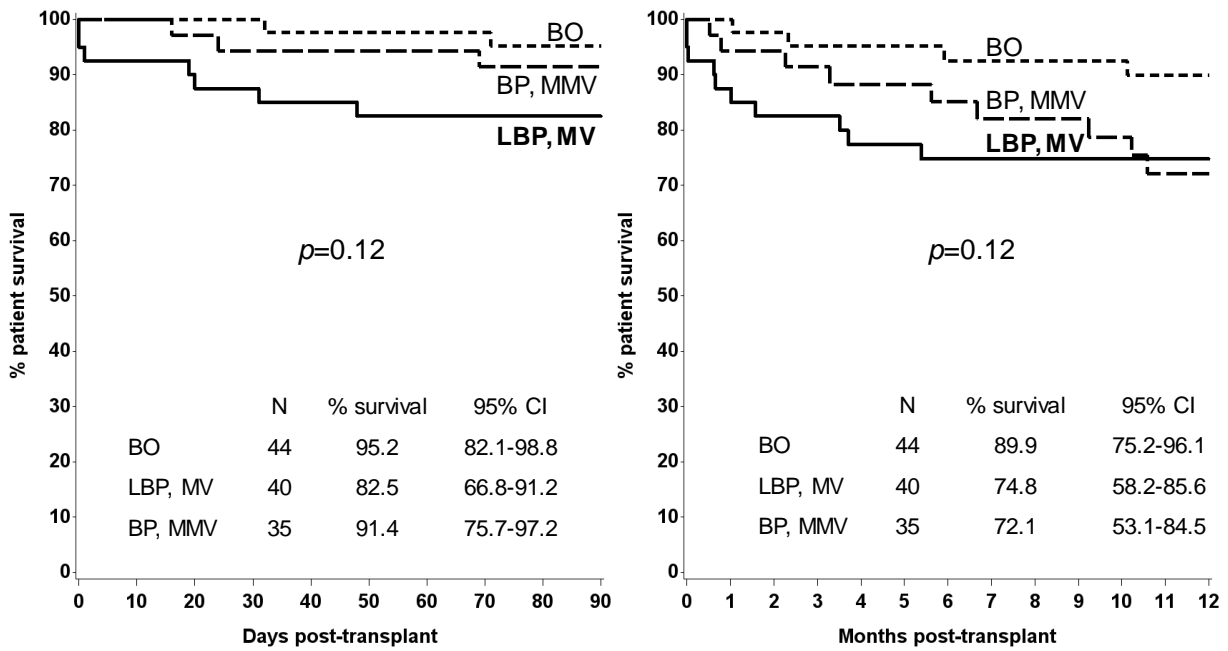
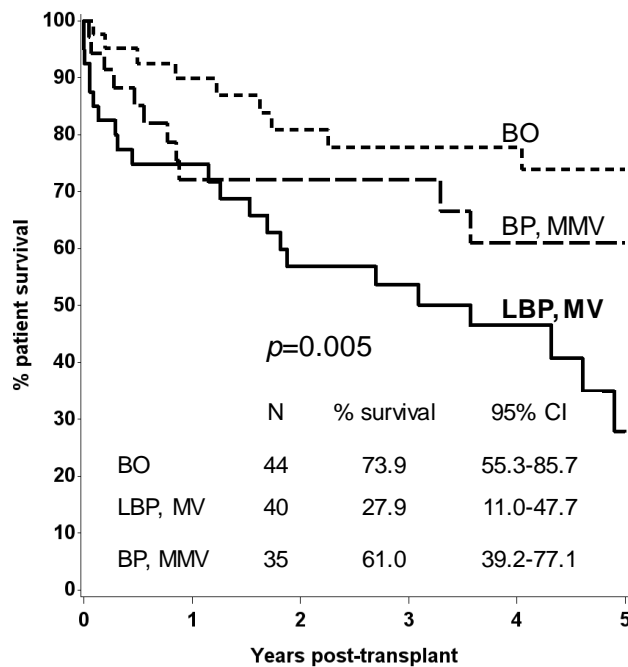


Figure 8 5 year adult patient survival following intestinal transplantation, by transplant type



ABDOMINAL WALL PATIENTS**Figure 9 90 day and 1 year adult patient survival following abdominal wall transplantation**