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The case for a renal transplant Dietitian

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Intro
Post-transplant diabetes affects 15-20% of renal transplant patients and affects morbidity and mortality of the transplanted kidney and the patient1. Dietary freedom following potentially years of dialysis restrictions may contribute to weight gain and incidence of post-transplant diabetes3. Furthermore, medications such as corticosteroids are associated with weight gain and raised triglycerides post-transplant2. NICE guidance has suggested that the involvement of a Registered Dietitian (RD) post-transplant may contribute to the longevity of the transplant and be cost-saving downstream4. However RD's do not form a regular part of post-transplant care for renal transplant recipients.

Methods
199 renal transplants were performed between 01/01/2017 to 10/01/18 in centre. Patients who passed away, had a failed transplant or transferred out of centre within 1 year of transplant were excluded, leaving 125 transplant patients.
Pre-transplant weight and highest weight post-transplant were collected. For patients who had lost weight, their lowest weight post-transplant was recorded. Pre- and post-transplant data was also collected for lipid profile (cholesterol and triglycerides) and HbA1c.
Clinical records were also searched to see whether patients had been referred to and seen by an RD.

Results
25 patients (20%) went on to develop post-transplant diabetes or impaired glucose tolerance (IGT) within 2-3 years of transplantation. 9 of these (36%) were seen as an IP once immediately following transplant, and 6 (24%) were seen as an OP once, only after diagnosis of post-transplant diabetes or substantial weight gain. There was an average increase in HbA1c of 14.9mmol/mol (31% increase). Most common medications used to treat post-transplant diabetes were metformin, linagliptin, liraglutide, and Humalog 25.
Weight gain post-transplant was prevalent with 109 (87%) patients gaining weight (8.9kg average, range 0.5kg - 36.5kg). Furthermore, 27% of patients were obese pre-transplant compared to 43% post-transplant (see Figure 1).
Cholesterol increased post-transplant in 60% of patients (mean increase of ~1.2mmol/l. 61% of patients had high cholesterol (>4mmol/l) pre-transplant compared to 76% of patient post-transplant. Triglycerides increased post-transplant in 54% of patients (mean increase of ~0.94mmo/l). 16% of patients had high triglycerides (>2.3mmol/l) pre-transplant compared to 26% of patients post- transplant.

Discussion
20% of renal transplant patients developed post-transplant diabetes which is similar to previously reported figures1. Weight gain is associated with T2DM and it is likely that weight gain post-transplant increases risk of post-transplant diabetes5. Cholesterol and triglycerides also increased post-transplant posing a further increased risk of cardiovascular events. However, little dietary and lifestyle intervention was offered to these patients and when it was, it was often after large amounts of weight gain had already occurred. Furthermore, due to the high volume of outpatient appointments post-transplant patients attend, it is not feasible for these patients to be seen in a separate dietetic clinic. However, it may be a more-cost effective6 and useful strategy to employ a Renal Dietitian to run a group weight management session that facilitates education, rather than an individual program.