

BMI in Renal Transplant Recipients - Nurse Led Clinics:

A heavy weight fight

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Kidney transplant in Australia

2017

- 1,400 waiting for organs
- 510 organ donors (plus, 273 living donors)
- 1675 transplant recipients

Breakdown:



→ A 835 kidney transplants (49.8%)

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Longevity of kidney transplant recipients in Australia

Time	FMDC		Australia	
	n	% Survival (95% CI)	n	% Survival (95% CI)
0	76	100.0	4222	100.0
3 months	76	100.0	3936	99.1 (98.8-99.4)
6 months	67	100.0	3719	98.7 (98.3-99.0)
1 year	56	98.4 (89.1-99.8)	3304	98.1 (97.6-98.5)
2 years	34	98.4 (89.1-99.8)	2576	96.7 (96.1-97.3)
3 years	21	98.4 (89.1-99.8)	1874	94.9 (94.0-95.6)
4 years	12	98.4 (89.1-99.8)	1202	93.5 (92.4-94.4)
5 years	6	98.4 (89.1-99.8)	583	91.5 (90.1-92.8)

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Primary Graft survival in Australia: 2016

Table 16: Graft survival for all grafts

Time	FMDC		Australia		New Zealand	
	n	% Survival (95% CI)	n	% Survival (95% CI)	n	% Survival (95% CI)
0	94	100.0	4815	100.0	741	100.0
3 months	93	98.9 (92.7-99.8)	4404	97.6 (97.1-98.0)	683	97.7 (96.3-98.6)
6 months	84	98.9 (92.7-99.8)	4139	96.7 (96.1-97.2)	633	97.4 (96.0-98.3)
1 year	72	97.7 (91.0-99.4)	3630	95.3 (94.6-95.9)	558	96.1 (94.3-97.3)
2 years	46	97.7 (91.0-99.4)	2812	93.5 (92.7-94.3)	417	93.6 (91.3-95.3)
3 years	26	95.5 (85.7-98.6)	2012	90.5 (89.5-91.5)	286	91.5 (88.8-93.6)
4 years	15	95.5 (85.7-98.6)	1273	87.8 (86.6-89.0)	173	88.3 (84.7-91.0)
5 years	8	95.5 (85.7-98.6)	604	84.3 (82.6-85.9)	90	86.5 (82.4-89.7)

Risk factors for graft/recipient loss:

Graft Losses 2011-2015				
Outcome	Cause of death	Cause of graft failure	First year	Beyond first year
	→ Cardiovascular		33 (39%)	235 (24%)
	→ Withdrawal		2 (2%)	66 (7%)
→	→ Cancer		3 (4%)	306 (32%)
Death with function →	→ Infection		30 (36%)	133 (14%)
	→ Other		16 (19%)	225 (23%)
	Total		84 (100%)	965 (100%)
	Acute rejection		26 (22%)	34 (3%)
	Chronic allograft nephropathy		6 (5%)	826 (76%)
	Hyperacute rejection		1 (1%)	-
	Vascular		30 (25%)	13 (1%)

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Risk factors graft loss:

1. Cancer

2. Infection

3. ****Cardiovascular disease - CVD**

- Improve surveillance
- Monitor
- Education
- recipient reporting symptoms

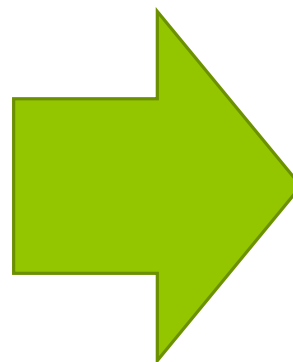


Use of nurse – led clinics

CVD

Cardiovascular disease remains a leading cause of mortality in kidney transplant recipients (CARI)

- Obesity
- Hyperlipidaemia
- Medications
- Smoking



BMI

Obesity

Obesity/ overweight is defined by the WHO as:

*‘abnormal or excessive fat accumulation
that presents a risk to health’*

BMI

- Adult Australians are at increased risk for CRF if BMI > 30kg/M²
- Weight gain is almost universal after kidney transplantation
- Observational studies show a prevalence of obesity of between 20 - 40% in transplant recipients


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BMI post transplantation

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Transplant Proc. 2015 Jun;47(5):1402-4. doi: 10.1016/j.transproceed.2015.04.028.
Increase in Body Mass Index After Renal Transplantation

Body Mass Index and Mortality in Kidney Transplant Recipients: A Systematic Review and Meta-Analysis

Weight gain, overweight and obesity in solid organ transplantation—a study protocol for a systematic literature review

Higher recipient body mass index is associated with post-transplant delayed kidney graft function

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Transplant Proc. 2014 Oct;46(8):2844-7. doi: 10.1016/j.transproceed.2014.09.025.
Post-transplantation body mass index in heart transplant recipients: determinants and consequences

Weight gain, overweight and obesity in solid organ transplantation—a study protocol for a systematic literature review

Effects of high BMI post Tx

- NODAT
- HTN
- Allograph nephropathy
- CVD
- CRF
- Hyperlipidemia

Impact of nurse led-clinic

- Modifiable factors
- Improve QOL
- Outcomes
- Calculation of BMI
- Explanation what BMI represents
- Discussions long term risk factors
- Graft longevity
- CVD risks

Management:

- strategies
- Social
- Economic
- Future implications
- Health and well being
- Pivotal public health issue
- Management program is fundamental

FMC Study

BMI and Nurse Practitioner-led wellness clinic

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Background:

- Identification of rapidly increasing BMI post Tx
- High BMI independent risk factor
 - poor graft function
 - NODAT
 - Adverse effects on lipid profiles
 - Cardiovascular disease
- **Nurse led clinics used to bridge this gap**

Aim

- A need for targeted education in relation of BMI post tx
- Aim raise awareness of risk factors associated with high BMI
- To reduced BMI to improve long term outcomes
- Observe BMI first 2 years post Tx
- Assess if NP clinics have positive impact on reduced BMI and NODAT

Method:

Retrospective study: BMI 2016, 2017

Prospective comparison BMI trends 2018, 2019

Nurse led clinic vs/ no nurse led-clinic

Conclusion

- High BMI post Transplant well identified and documented
- BMI major contributor towards CVD post transplantation
 - Modifiable risk factors - intervention required
 - Input from Nurse led clinics invaluable
- Alterations in BMI essential for graft longevity

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Thank you



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