



# AKI in Transplant patients

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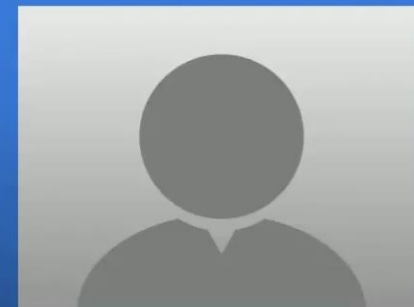


## AKI in transplant patients

Exact epidemiology not clear

Varying terminology, including overlap with delayed graft function and rejection

Different criteria for diagnosis of AKI



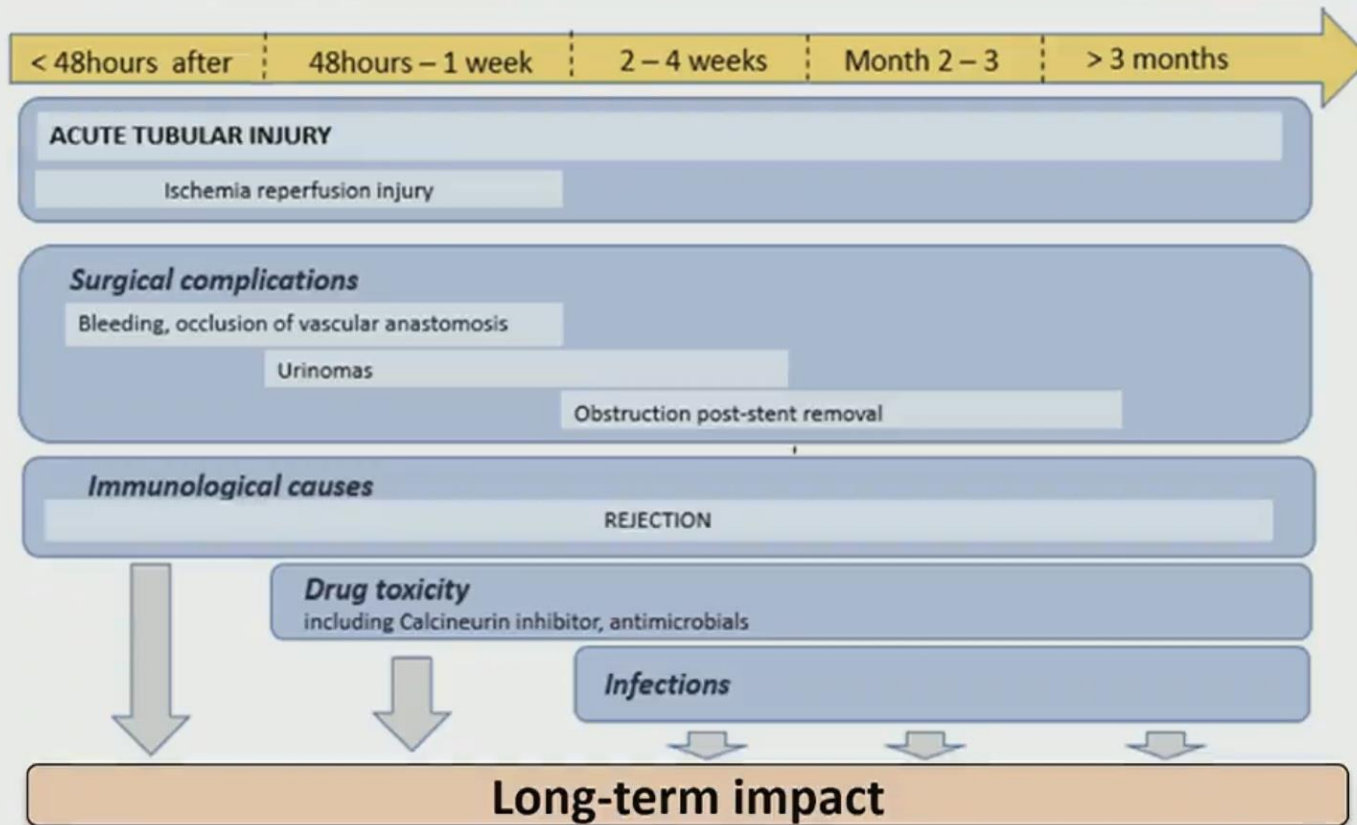
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AKI in kidney transplantation -  
Begins in the operation room and  
lasts forever



JUNE 6-9, 2020

# AKI in transplant patients



# AKI in transplant patients

## First 48 hours post Tx

### Potential causes

Acute tubular injury:	due to prolonged ischaemia time haemodynamic instability
Surgical complications:	occlusion of vascular anastomosis bleeding / perirenal haematoma
Immunological risks:	hyper-acute rejection



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REVIEW

Open Access

## Perioperative fluid management in kidney transplantation: a black box



Maria Helena Calixto Fernandes<sup>1\*</sup>, Thomas Schriker<sup>1</sup>, Sheldon Magder<sup>2</sup> and Roupen Hatzakorzian<sup>1,2</sup>

Transplanted kidney is denervated → lack of neurogenic regulation of renal blood flow

Lack of tools to monitor renal microcirculation

Target BP and optimal cardiovascular parameters unknown

*Critical Care* (2018) 22:14

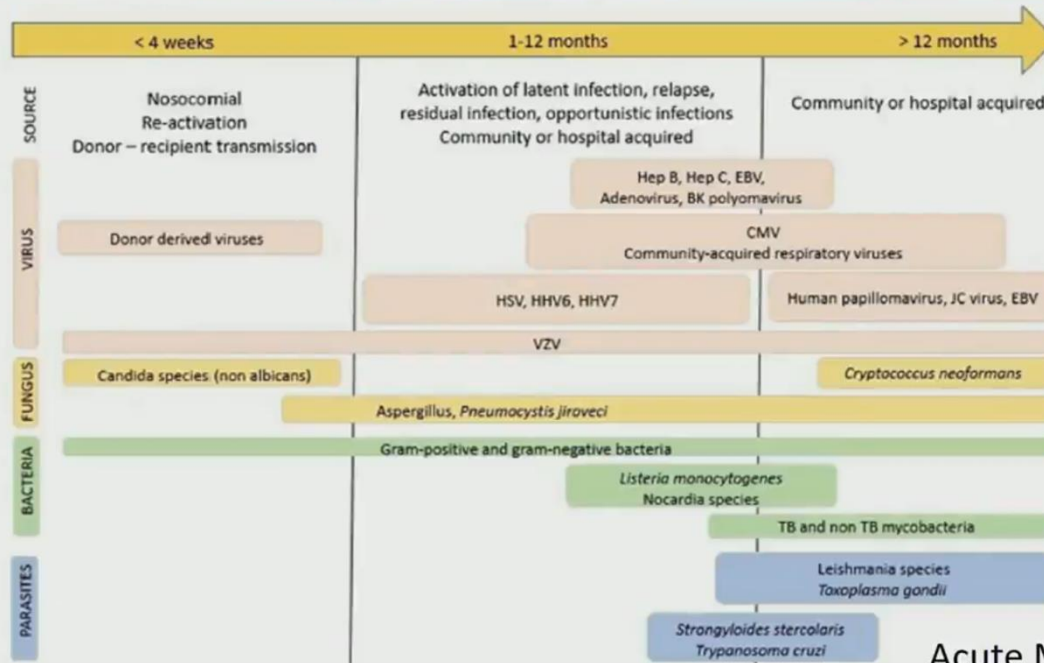


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# AKI due to infections



Acute Medicine 2018;17

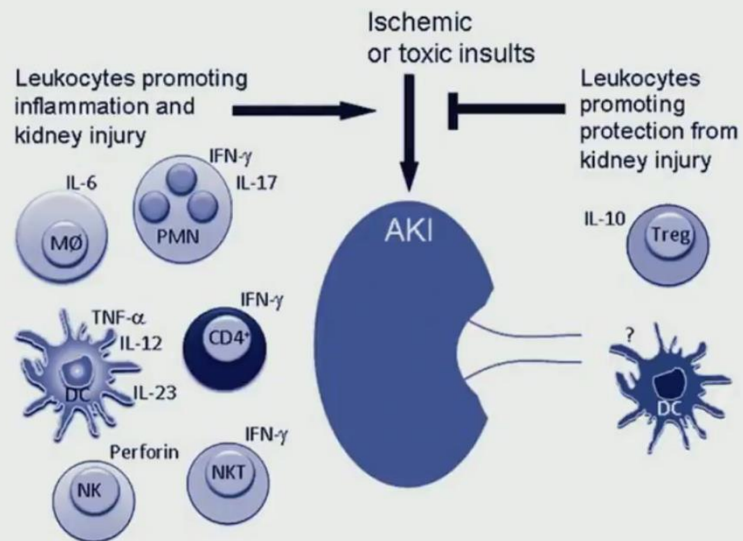
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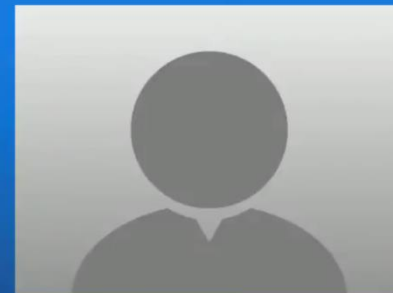
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## AKI and impact on immune system



Kinsey GR et al. Crit Care 2012;16(2)

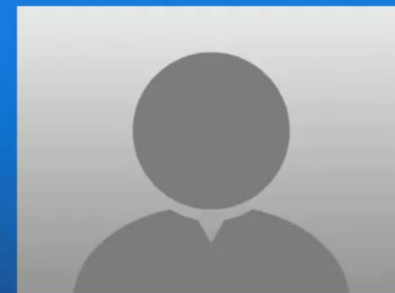
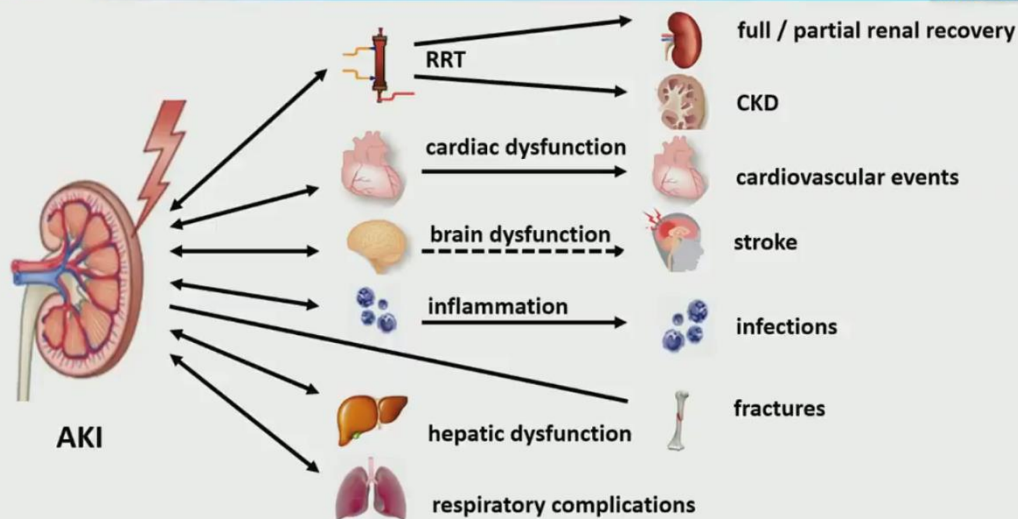


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## Outcome after non-transplant AKI



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## AKI in transplant patients

### Effect of Recipients' Peri-Operative Parameters on the Outcome of Kidney Transplantation

121 patients undergoing 1<sup>st</sup> cadaver kidney transplantation

Mean intraoperative BP:

Patients with non-functioning grafts:	81 +/- 31 mmHg
Patients with delayed graft function:	90 +/- 24 mmHg
Patients with good graft function:	108 +/- 26 mmHg (p < 0.01)

Clin Transplant 1998;12(6):511-517



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## AKI in transplant patients

### Effect of Recipients' Peri-Operative Parameters on the Outcome of Kidney Transplantation

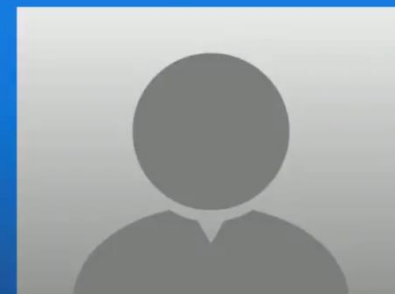
121 patients undergoing 1<sup>st</sup> cadaver kidney transplantation

Mean intraoperative BP:

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Kidney function differences observed in first 5 days post-Tx remained similar at the end of the next 2 yr.

Clin Transplant 1998;12(6):511-517



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# AKI post transplant and renal outcome

## Acute Kidney Injury as a Risk Factor for Transplant Graft Failure

Motonobu Nakamura\*, Shoko Horita, Masashi Suzuki, Osamu Yamazaki, Nobuhiko Satoh and George Seki

Mehrotra et al

Patient number	289	27,232
Institute	Single	Multiple
Donor type	Living only	Living (24%) and deceased (76%)
Observation period	4 years	3 years
AKI identification method	RIFLE criteria	ICD-9-CM codes
AKI occurrence rate (%)	20.4	11.3
Hazard ratio for graft failure		
<sup>a</sup> Mild AKI	2.28	2.74
<sup>b</sup> Severe AKI	3.95	7.35

J Transplant Technol Res 2014;4:2



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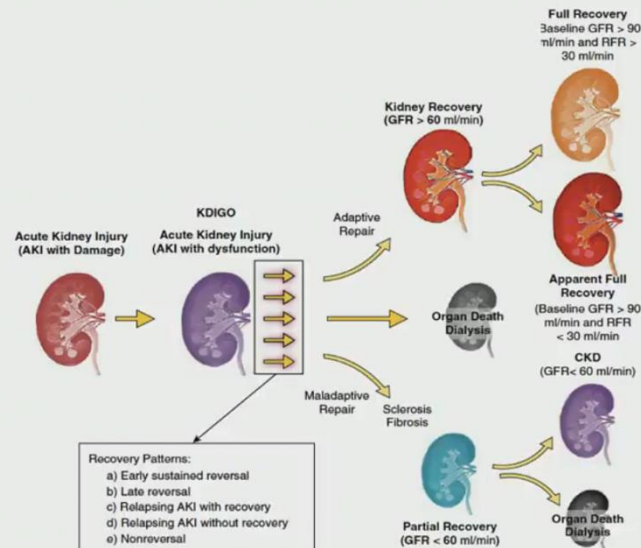


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# Kidney repair after AKI

## Kidney repair after AKI

Am J Resp Crit Care 2017;195



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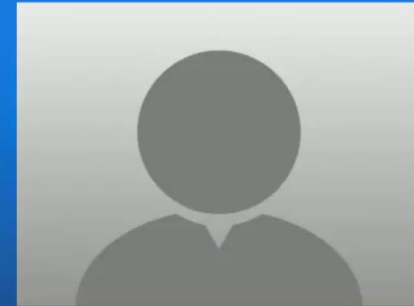
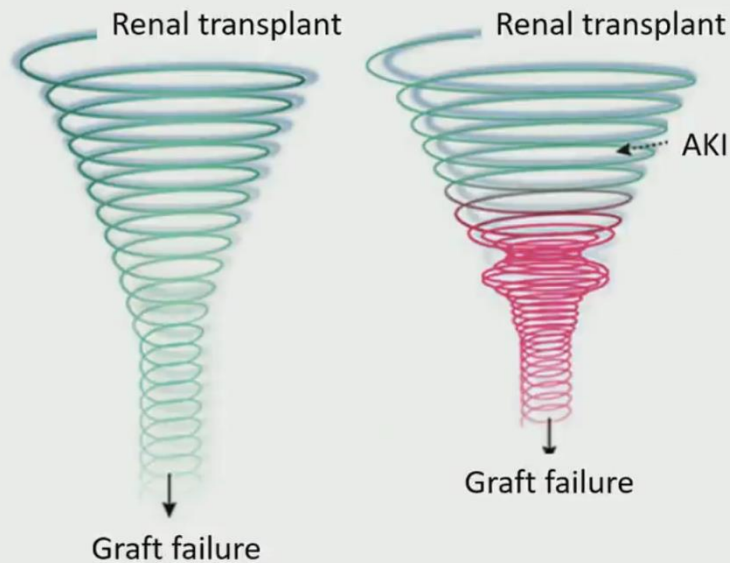
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