



A/Professor Roger Evans

Head, Cardiovascular and Renal Physiology (II)



Monash Biomedicine Discovery Institute
Cardiovascular Disease Program

OTHER PROGRAM AFFILIATIONS



Metabolic Disease
and Obesity



Neuroscience

EMAIL roger.evans@monash.edu

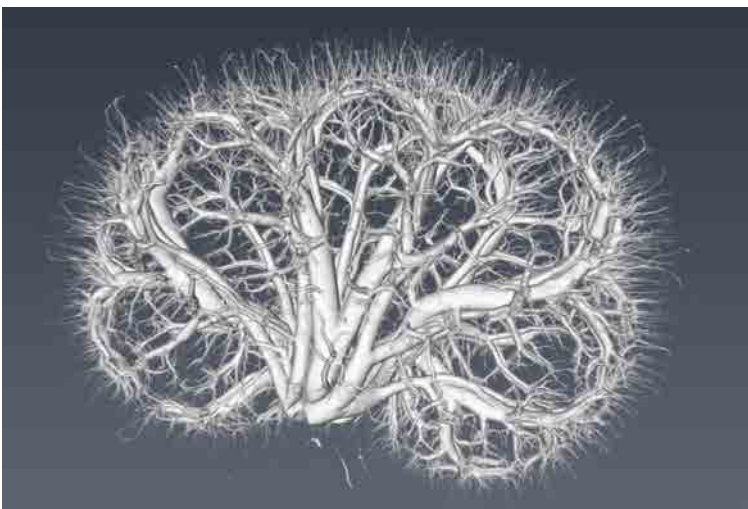
TELEPHONE +61 3 9905 1466

WEB med.monash.edu/physiology/staff/evans.html

There is now very strong evidence that tissue hypoxia (low levels of oxygen) is a final common pathway in kidney disease. But the causes and consequences of kidney hypoxia mostly remain a mystery. We also do not know enough about how hypoxia drives kidney disease. We have a range of projects investigating how oxygen levels are normally regulated in a healthy kidney, how the kidney becomes hypoxic in disease, how tissue hypoxia contributes to the development and progression of kidney diseases, and how we monitor kidney oxygenation in patients to prevent acute kidney injury and delay the progression of chronic kidney disease.

Research Projects

1. The role of kidney hypoxia in chronic kidney disease and acute kidney injury
2. The role of vascular structure in kidney oxygenation
3. Continuous measurement of urinary oxygenation as a biomarker of risk of acute kidney injury



Snapshot of rabbit kidney

Selected significant publications:

1. Calzavacca P, **Evans RG**, Bailey M, Bellomo R, May CN. 2015. Cortical and medullary tissue perfusion and oxygenation in experimental septic acute. *Kidney Injury. Critical Care Medicine* 43, e431-e439.
2. Ngo JP, Kar S, Kett MM, Gardiner BS, Pearson JT, Smith DW, Ludbrook J, Bertram JF, **Evans RG**. 2014. Vascular geometry and oxygen diffusion in the vicinity of artery-vein pairs in the kidney. *American Journal of Physiology – Renal Physiology* 307, F1111-F1122.
3. Ow CPC, Abdelkader A, Hilliard LM, Phillips JK, **Evans RG**. 2014. Determinants of renal tissue hypoxia in a rat model of polycystic kidney disease. *American Journal of Physiology – Regulatory Integrative and Comparative Physiology* 307, R1207-R1215.
4. Abdelkader A, Ho J, Ow CPC, Eppel GA, Rajapakse NW, Schlaich MP, **Evans RG**. 2014. Renal oxygenation in acute renal ischemia-reperfusion injury. *American Journal of Physiology – Renal Physiology* 306, F1026-F1038.
5. Koeners MP, Ow CPC, Russell DM, Abdelkader A, Eppel GA, Ludbrook J, Malpas SC, **Evans RG**. 2013. Telemetry-based oxygen sensor for continuous monitoring of kidney oxygenation in conscious rats. *American Journal of Physiology – Renal Physiology* 304, F1471-F1471-80