

Working as a Physician Scientist

with Dr Jamie Privratsky

Talking points

KNOWLEDGE

1. What role do the kidneys play in the body?
2. What happens when someone has acute kidney injury (AKI)?

COMPREHENSION

3. What is the difference between AKI and chronic kidney disease (CKD)?
4. What is the relationship between macrophages and cytokines in the kidney?
5. How do cytokines cause inflammation?

APPLICATION

6. How might Jamie's discoveries lead to improved treatments for patients with sepsis and/or AKI?
7. If you had the chance to spend a day with Jamie, working as either an anaesthetologist in hospital or designing experiments and analysing results in the lab, which would you prefer, and why?

ANALYSIS

8. To what extent is inflammation a good thing for our body?

EVALUATION

9. If you were a physician scientist, what do you think you would find most rewarding about your dual role, and what do you think you would find most challenging?

Activities

1. Design a kidney-friendly diet

Health eating is important for keeping your kidneys healthy.

The American Kidney Fund has a Kidney Kitchen website (www.kitchen.kidneyfund.org) that contains recipes appropriate for people at different stages of kidney disease (www.kitchen.kidneyfund.org/eating-healthy-with-kidney-disease).

Explore the recipes and design a breakfast, lunch and dinner of kidney-friendly meals. For each meal, consider why the ingredients are good for the kidneys. How would you have to adapt the meals so they were suitable for:

- a person with stage 1 kidney disease?
- a person with kidney failure who is on dialysis?
- a person who has had a kidney transplant?

If you have the resources available, try cooking one of the meals yourself!

2. Explore our organs

Create a poster to educate 11–14-year-olds about any organ in the human body. Your poster should be eye-catching, engaging and include the following:

- The role the organ plays in the body
- The location of the organ
- What can happen if the organ does not function as normal
- The signs to look out for to tell if the organ is unhealthy
- Tips on how best to keep this organ healthy

More resources

- Learn more about Jamie's research projects: sites.duke.edu/privratskylab
- Learn more about AKI from the American Kidney Fund: www.kidneyfund.org/all-about-kidneys/other-kidney-problems/acute-kidney-injury-aki
- Learn more about immunology and the role of macrophages from the British Society for Immunology: www.immunology.org/public-information/bitesized-immunology.
- Learn about a cool project funded by the US National Institutes of Health that is studying kidney disease in human samples and view images of kidney samples: www.kpmp.org