Response to: 'The reference levels of serum urate for clinically evident incident gout' by Chen and Ding

We thank Drs Chen and Ding¹ for their interest in our recent paper describing the relationship between serum urate concentrations and risk of developing incident gout.² They suggest that we calculate benchmark dose estimates for serum urate and gout risk. Benchmark dose estimates are used in the field of occupational epidemiology to evaluate the minimal levels of exposure to an environmental toxin needed to cause a prespecified increase in an adverse event.

We are not aware of this approach being applied to clinical parameters that are not external exposures and are uncertain about validity of such an approach for serum urate, noting that all humans have some 'exposure' to urate, which is a circulating biochemical analyte. Estimation of the benchmark dose also requires a predetermined increase in risk (eg, 10% extra risk or change in the mean equal to one SD). At present, the clinically meaningful increase in gout risk is unknown. For these reasons, we have not provided benchmark dose estimates.

Nicola Dalbeth,¹ Amanda Phipps-Green,² Christopher Frampton,³ Tuhina Neogi,⁴ William J Taylor,⁵ Tony R Merriman²

¹Department of Medicine, University of Auckland, Auckland, New Zealand

²Department of Biochemistry, University of Otago, Dunedin, New Zealand

³Department of Medicine, University of Otago, Christchurch, New Zealand

⁴Clinical Epidemiology Research and Training Unit, Boston University School of Medicine, Boston, Massachusetts, USA

⁵Department of Medicine, University of Otago, Wellington, New Zealand

Correspondence to Prof Nicola Dalbeth, Department of Medicine, Faculty of Medical and Health Sciences, University of Auckland, Grafton, Auckland 1023, New Zealand; n.dalbeth@auckland.ac.nz

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