High rates of amputation among Indigenous people in Western Australia

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To the Editor: There is generally a high level of awareness about the burden of disease associated with diabetes and its complications in Indigenous Australians.[1] While high rates of renal failure, retinopathy and cardiovascular disease in Indigenous people are frequently emphasised, diabetes-related foot complications receive relatively little attention.

As part of the Western Australian Department of Health's Cardiovascular Health Network initiative (http://www.healthnet-works.health.wa.gov.au/network/cardio.cfm), we reviewed the trends in amputations for arterial disease or diabetes-related complications in Western Australia for the period 2000–2008. Discharges from hospital for any lower-limb amputations were identified using the relevant International Classification of Diseases, 10th revision, Australian modification, codes.[2] Each individual was included only once, regardless of whether they had a further amputation. Age-standardised rates were calculated for Indigenous and non-Indigenous people residing in Western Australia, with and without diabetes. Toe or foot amputations were defined as "minor", and amputations below or above the knee as "major".

Among those aged 25–49 years with diabetes, minor amputations were 27 times more likely, and major amputations 38 times more likely, in Indigenous people (Box). These data have not been validated by chart review, but there is no reason to suspect systematic bias.

Nearly all (98%) of the amputations in Indigenous people were associated with diabetes. Although it is difficult to estimate the role of macrovascular arterial disease using administrative data, the literature suggests that peripheral neuropathy, ulceration and sepsis are important causal factors in these amputations.[3]

There is ample evidence that simple interventions such as foot screening, education and appropriate footwear are cost-effective measures to reduce amputations in patients with diabetes.[4] Although there are some excellent programs and services for Indigenous people with diabetic foot problems throughout Australia, they are few in number, often fragmented and generally poorly resourced. Multidisciplinary foot clinics — considered international best practice[5] — typically remain centred in capital city tertiary hospitals, requiring Indigenous people from rural and remote areas to travel long distances onto someone else's land, with unfamiliar surroundings and devoid of family support.

Although further research is required to better understand the underlying reasons for this disparity in amputation rates, there is a more urgent need to implement culturally appropriate versions of simple interventions among Indigenous people and ensure foot care is a standard component of comprehensive, multidisciplinary diabetes management.

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Age-standardised amputation rate* (crude number) by age group, 2000–2008

	Minor amputations†		Major amputations‡	
	25–49 years	⩾ 50 years	25–49 years	⩾ 50 years
Indigenous with diabetes	46.4 (93)	185.0 (118)	15.0 (30)	76.8 (49)
Non-Indigenous with diabetes	1.7 (108)	28.9 (1408)	0.4 (26)	13.1 (638)
Indigenous without diabetes	0.0 (0)	4.7 (3)	1.0 (2)	3.1 (2)
Non-Indigenous without diabetes	0.3 (21)	6.5 (317)	0.3 (17)	12.8 (628)

* Per 100 000 Indigenous and non-Indigenous people (irrespective of diabetic status) using the 2001 Census as the standard population. † Toe or foot amputations. ‡ Amputations below or above the knee. ◆