

Help at hand for people watching their weight

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A Ph.D. student from the University of Sydney has developed a new method to help people estimate food portion size using only their hands. Credit: University of Sydney

Researchers from the University of Sydney's Boden Institute of Obesity, Nutrition, Exercise & Eating Disorders have developed a portable and easy-to-use method to help people estimate portion size using only their hands.

In the first-ever study to assess the accuracy of hand-based methods for measuring [food](#) portions, finger width was used as a 'ruler' to gauge the dimensions of foods and glasses of liquids. These measurements, combined with geometric formulas of volume and food density factors, resulted in an objective and acceptably accurate estimate of the weight of the food.

The research, led by PhD candidate and Accredited Practising Dietitian Alice Gibson, was published in the *Journal of Nutritional Science* today.

Ms Gibson's attempts to understand her own eating habits motivated her to pursue this research, as part of her doctoral thesis at the University of Sydney's Charles Perkins Centre into clinical weight loss trials.

"I completed a food diary for a week and that's when I realised how hard it would be for people to accurately estimate the true amount of food on their plates, particularly for difficult-to-measure foods like lasagne. It struck me I had no accessible or reliable way of doing so," she said.

"I realised there was a gap in the market for people trying to eat sensibly when they're out and about, when they don't have access to a set of scales."

Comparing estimated weights from the 'finger width' method with the true weight of the food, Ms Gibson and her colleagues also tested the use of fists, finger tips and thumbs. The study examined the responses of 67 participants who were tasked with estimating the portion sizes of 42 pre-weighed foods and liquids.

All hand methods were compared with household methods (cups and spoons) and subjective size descriptions (small, medium, large).

The 'finger width' method was found to be more accurate than household measures and size descriptions for estimating food portions. Eighty percent of food sizes assessed with the 'finger width' method were within 25 percent of their true weight, compared with 29 percent of those estimated using the household method.

"While more research is needed to fine-tune the technique, I think there's real potential for this tool to be incorporated into electronic platforms such as smartphone applications so that the calculations are automated and estimating food intake on-the-go is more accurate," said Ms Gibson.

"Better accuracy when estimating food and drink intake will allow dietitians to tailor [nutrition](#) advice and recommendations even further, ultimately benefiting clients," she added.

In early recognition of the research, Ms Gibson was recently awarded the Dietitians Association of Australia (DAA) President's Award for Innovation for her tool.

The award is in Honour of the memory of Josephine (Jo) Rogers AM, a University of Sydney graduate and President and Vice-President of the Australian Dietetic Council (the forerunner of DAA) between 1959 and 1967.

"It is fantastic to have this tool validated, providing an easy-to-use, evidence-based resource that will be available to all practitioners anywhere, anytime," said DAA President Liz Kellett.

More information: Alice A. Gibson et al, Accuracy of hands v. household measures as portion size estimation aids, *Journal of Nutritional Science* (2016). [DOI: 10.1017/jns.2016.22](https://doi.org/10.1017/jns.2016.22)

Provided by University of Sydney

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