

## RA sufferers armed with kitchen safety tool (w/ Video)

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This is QUT student Ching-Hao (Howard) Hsu with his invention. Credit: Erika Fish

For sufferers of rheumatoid arthritis (RA), cooking tasks can be both difficult and dangerous. However, a new assistive technology invented by a student from Queensland University of Technology in Brisbane, Australia offers a safe way for people to lift cookware, relying on the strength of their forearms.

His design has earned a spot on the first-round shortlist of one of the

world's most prestigious design competitions - the Australian Design Award/James Dyson Award.

Twenty-four-year-old Ching-Hao (Howard) Hsu, who graduated with a Bachelor of Design (Industrial Design) at the end of 2010, designed the 'arthritis handle' after observing several sufferers of [rheumatoid arthritis](#) performing cooking tasks in their own kitchens.

RA is a chronic disease affecting one percent of the population - about 500,000 Australians. It involves inflammation of the joints, which can lead to stiffness, swelling and sometimes disablement in the hands.

"After several observations and lots of interviews, I found that lifting was a major problem for sufferers of RA during cooking preparation," Mr Hsu said.

"It was difficult for sufferers of RA to lift things with their hands, due to having limited strength and flexibility. So they had to lift with their forearms. This limited them to using cookware with handles on both sides.

"If a saucepan only had one handle, most people put a towel over their other forearm to grasp the opposite side of the pot, but this was a slippery and dangerous way of lifting, exposing the person to the risk of burns.

"The arthritis handle allows sufferers of RA to use any kind of cookware, and not be limited to double-handled products.

"Due to the limited flexibility of a hand with RA, the ergonomically-designed finger holder at the front of the arthritis handle fits comfortably on the user's hand without twisting the user's fingers.

"The shape of the arthritis handle is also ergonomic, in that it spreads the weight of the cookware across the user's forearm."

Mr Hsu said the arthritis handle featured a silicone coating with heat resistance up to 200 degrees celsius, to prevent heat from being directed to the forearm.

"The TPE (thermoplastic elastomers) used in the product provide grip, while a magnetic strip enhances the stability for people lifting metal cookware," he said.

"I want to make sure that the arthritis handle is eventually made available in various colours. People using assistive technologies often hate sticking out as being a 'special' person. So I want this to look like a normal kitchen tool, with the inner frame available in bright orange, yellow or green, with a white outer frame."

Mr Hsu, who grew up in Taiwan, began his masters in lighting engineering at QUT in February, and hopes to work on environmentally friendly products in the future.

Provided by Queensland University of Technology

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