

# Invention breathes new life into tennis balls

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The traditional cry of "new balls please" at tennis courts throughout the country could become a thing of the past thanks to a new invention by a University of Bath student.

Aimée Cubitt, a final year Mechanical Engineering student, has developed a new device which pumps air into tennis balls to extend their useful life and restore the bounce of old balls.

This is useful because tennis balls start to lose their bounce as soon as they are removed from their container as the pressurised air within their rubber core starts to seep out.

Playing with flat balls can increase the likelihood of tennis elbow and causes the ball to behave in a less consistent manner, affecting a player's game.

In major tournaments, like Wimbledon, umpires need to call for new balls after around every nine games to make sure that the balls stay within the regulations\*.

But there is currently no way for amateur players to reinvigorate their tennis balls once they have gone flat, resulting in thousands of balls being thrown away each year and many amateur players using below-regulation balls.

As part of her final year project on the Innovation, Engineering and Design course at the University of Bath, Aimée discovered that storing tennis balls in a pressurised container can help slow down pressure loss and even reverse it.

Her invention, which she has called Pump'n'Bounce, incorporates a hand-operated pump with a tennis ball canister, allowing players to pressurise the container they store their tennis balls in.

“It is a fairly simple idea really, but the tests have shown that you can quite literally breathe new life into tennis balls by putting them under pressure,” said Aimée, who graduates in July.

“Pump'n'Bounce is a small device which will allow amateur tennis players to get the most out of their tennis balls. The tennis players I have surveyed are really keen to get their hands on the product.

“It should be possible to manufacture and sell Pump'n'Bounce for about £15, and players will be able to recoup their costs fairly quickly, as initial tests have shown that it is possible to double if not treble the lifetime of a tennis ball using this kind of system.”

Aimée, who has been involved in setting up the Student Enterprise Centre at the University of Bath and is a founder member of BANTER, the University's student enterprise society, is keen to try and develop the product after she graduates.

“Tennis ball manufacturers could sell their tennis balls with a Pump'n'Bounce canister which would help add value to the product they are selling and extend its lifetime for the benefit of their customers,” said Aimée, who is keen to hear from potential commercial partners interested in helping develop the product.

Manufacturers currently advise players that tennis balls should be stored in the can they came in when they are not in use. This won't prevent them from losing pressure, but can slow it down.

After graduating in July and taking some time out from studies, Aimée

hopes to start a career in product design.

Source: University of Bath

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