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Plastic handles on disposable acupuncture needles would curb risk of needle buckling

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Replacing copper coil handles on all disposable acupuncture needles with plastic stick handles would not only substantially curb the risk of needle buckling, but would also save tonnes of copper wire and millions of meters of medical grade stainless steel, concludes research published in *Acupuncture in Medicine*.

Single use, disposable acupuncture needles were introduced in the late 1970s, prompted by concerns about the risk of infection of reusable needles. Since that time, they have gradually been adopted worldwide.

In clinical practice it is often difficult for the acupuncturist to insert a long needle into tissue, because long fine needles are prone to buckling.

Acupuncturists have therefore either resorted to larger needles, which can be more painful for the patient, or to holding the needle shaft during insertion, which poses an infection risk, and contravenes World Health Organization recommendations, say the researchers. Minimising the risk of buckling during the procedure is therefore important to enhance patient comfort and safety, they say.

In a bid to find out which handle type might therefore be the best option to resist buckling, they compared the strength of two of the most commonly used designs: copper coil and plastic.

They did this by assessing the load needles with each of these handles could sustain, and the stiffness of the stainless steel wires used in

different lengths of acupuncture needle.

The results showed that the stiffness of the stainless steel wires in both types of needles was similar. But needles with copper coil handles were far more prone to buckling than those with plastic handles, and required more steel wires. The average buckling force of plastic handle needles was almost 47% higher than that of copper coil handle needles for those of 30 mm length, and almost 31% higher for those of 60 mm length.

Replacing copper coil handles with plastic handles would also be more eco friendly, say the researchers. Currently, around 2 billion disposable acupuncture needles are used annually. Most are manufactured in China, and at least half of them, with copper coil handles.

Based on this level of usage, switching to plastic handles could save up to 100 tonnes of copper wires and 20 million metres of medical grade stainless steel every year, the researchers calculate.

They admit that plastic handles are less easy to use for electroacupuncture, but a new design of needle has recently been developed, which should overcome this, they say.

"The evidence for the discontinuation of the widespread practice of using copper coil handles in disposable acupuncture needles is overwhelming," write the authors. At the very least the practice should be re-evaluated, they conclude.

More information:
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