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Title : EDI innovation hones surgeons' cutting edge

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The danger of contracting an infection from blunt surgical instruments has been reduced. Enhancing the cutting-edge of these tools is Entrepreneurship Development Institute of India (EDI) with its innovation.

Several surgical instruments used here are too blunt, resulting in botched surgeries and causing great trauma to patients. This has been forcing Indian doctors to import surgical instruments at high cost. In such a scenario, technocrats and scientists led by senior faculty K K Shaw of EDI's International Centre for Cluster Competitiveness, Growth and Technology developed a mechanism to render slag-free surgical instruments and have secured a patent for it.

“Surgical scissors, knives, forceps, needle holders, clamps and chisels are made from hardened grades of stainless steel. Odd configurations of parts are generally forged which results in forging scale on the exterior of these components. The scale is removed by a mechanical shot blasting process which has several limitations and inadequacies. This demands an alternative method to remove forging scale from stainless steel,” Shaw said.

He said his process uses a liquid at a high temperature that can go into cavities without diffusing into the forged components. The components are treated with an acidic solution to provide an excellent surface finish.

Oral cancer surgeon Dr Kaustubh Patel said: “Lives can be at risk and precision of surgery is jeopardized if surgical tools are blunt. This can also cause trauma to the surrounding tissue. Inflammatory response as a result of blunt instruments can delay the healing process.”

Shaw said his invention can also be used for making several automobile components, parts of machine tools, food processing and pharmaceutical machines from iron and alloy steel.

