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Researchers develop device for faster jaw reconstruction

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The new way of reconstruction will lead to a shorter operation of four to eight hours, fewer post-operative complications, and a faster recovery of three days instead of two weeks.



A team of researchers from the National Dental Centre Singapore, has developed a titanium modular endoprosthesis that can be used to replace the affected part of the lower jaw. The current method uses a bone from the patient's lower leg.

After the section of the jaw is removed, the procedure involves affixing the device into holes drilled into the bone stumps and fixing screws to secure it to the jaw.

Currently, surgeons remove a bone in the patient's lower leg along with the blood vessels and shape it to fit the jaw of the patient. This requires an operation of up to 12 hours, three weeks of hospitalisation and a recovery period of two weeks, with possible complications such as infection, and extensive scarring on the leg.

The new way of reconstruction will lead to a shorter operation of four to eight hours, fewer post-operative complications, and a faster recovery of three days instead of two weeks.

The National Dental Centre Singapore team has filed a patent application and clinical trials are expected to begin by 2020. They are also expecting to commercialise the product by 2025.