

CUREXO SURGICAL ROBOT SYSTEM

cuvis SPINE

A spine surgery robotic system
using advanced navigation technology



Paradigm Shift in Robotic Spine Surgery



Open pedicle screw insertion surgery



Percutaneous (MIS) pedicle screw insertion surgery



Spine robotic surgery

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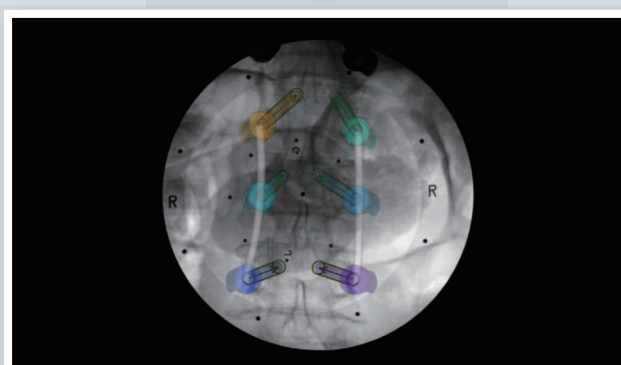
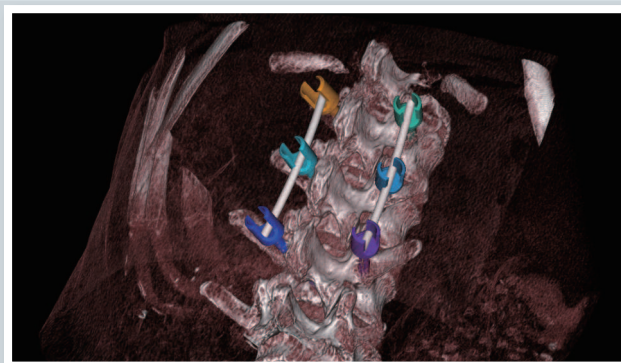
CUVIS-spine is a spine surgical robot using advanced navigation technology.

CUVIS-spine assists the surgeon to achieve the precise patient specific spine surgery.

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According to the preoperative planned information, CUVIS-spine guides the surgical instruments to the right position. The OTS (Optical Tracking System) camera helps tracking the surgical instruments in real-time to enhance the predictability and safety of the surgery. Open platform solution offers users to choose and use the optimal pedicle screw for the patients.



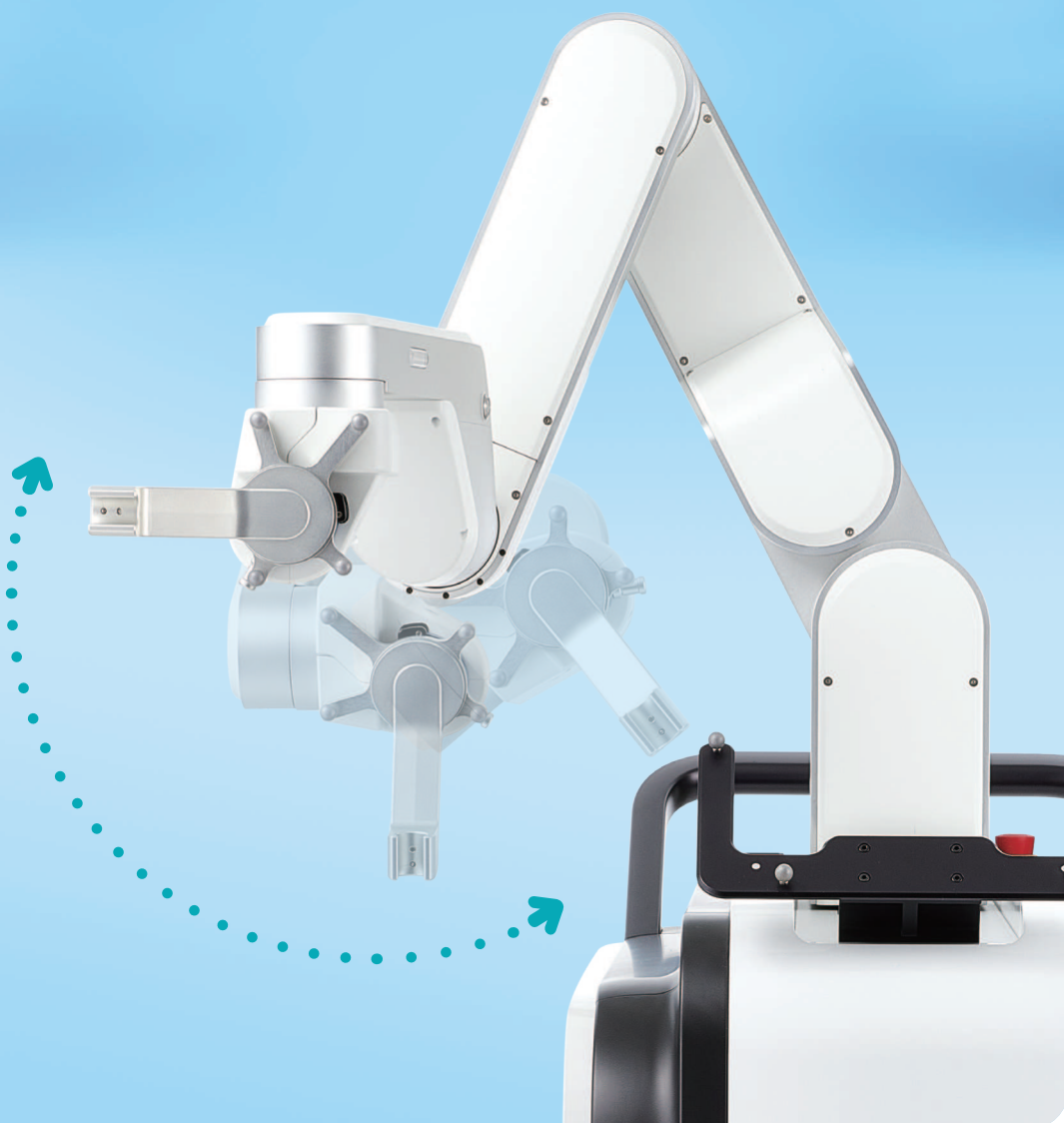


2D-3D Registration

The user is able to use a surgical planning based on preoperative CT through 2D-3D image registration. The user can choose the optimal surgical planning method, combining intraoperative 3D imaging (O-arm, 3D c-arm) or fluoroscopy based planning, to achieve the best surgical outcomes.

Approach

Guides the instrument not only in the prone position but also in the lateral position. It enables surgery to be performed without changing the patient's position, thus the surgical time can be reduced.



Navigation

The OTS (Optical Tracking System) helps tracking the patient's movement, surgical instruments, and pedicle screw in real-time from the beginning to the end of the surgery. According to the patient's anatomy, the robotic arm will guide the surgical instruments such as bur, tap, screwdriver and probe to the exact operative position. This will help minimize the error rate and let users operate a safe surgery.





Force Tracking

The user can rely on the force rate and force direction shown in real-time, which prevents skiving and potential danger during the surgery. CUVIS-spine provides information that can help the user to make clinical decisions for safe and reliable surgery.

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