

Innovative Custom Orthopaedic Solutions (ICOS) by JRI

Designed and fabricated bespoke implants that help patients return to anatomical wellness.



🕖 I C O S

Over 50 years experience of Hip innovation, design and British manufacture has enabled JRI to understand that every patient is different, and each orthopaedic case is as special as the last.

Individuals recover differently during standard orthopaedic procedures, so for those more challenging cases 'off the shelf' implants would simply compromise the outcome.

ICOS is not just about the implant but is an end-to-end dedicated service tailored to the different, unique and one-offs that do not fit the same standard and everyday implant and procedure.

ICOS provides surgeons with the ability to treat patients presenting complex degenerative, trauma or tumour acetabular bone defects far better than conventional or standard implants.

ICOS believes that although all custom implants are unique to that patient the clinical outcome should be consistent.

Good surgical fit, easy bone & tissue compliance and faster recovery time are key benchmarks to patient and surgical practice.





Analysis Phase:

Analysis of patient's computerised tomography (CT) scan to provide a 3D model of the anatomy is created, enabling both the surgeon and the ICOS engineer to accurately inspect a patient's anatomical defect. The fundamental base for the design can then be agreed.



Design Phase:

Surgeon and IOCS Engineer agree on the best possible custom solution for the individual. Using a combination from the surgeon's (clinical) and engineer's (mechanical) expertise a design is agreed including patient specific instrumentation and patient specific surgical technique.

Production Phase:



Following final design approval from the surgeon the custom implant is manufactured. Each implant is constructed using Direct Metal Laser Sintering (DMLS) technology. DMLS provides the highest level of accuracy and detail compared to other custom offerings. During manufacture the implant is surface finished, cleaned, inspected and then sterilised before being released.

Delivery Phase:



Approximately 1 month after the final design is approved by the surgeon. ICOS Custom implant, instrumentation and the surgical technique are delivered to the facility ready for the patient's procedure.



\blacksquare I C O S unique custom technology



Dual Lattice Technology (DLT) Improves cleanability and mitigates excess powder entrapment. DLT significantly reduces the weight of the construct without weakening structural integrity of the implant.



Stochastic Bone Integration Lattice - Lattice structure of the implant is generated to provide greatest contact area with the host bone. The second key structural aspect is the random nature of the implant's lattice to provide maximum conformity to the patient's anatomy. Pores in direct contact with bony anatomy measure 500µm, providing optimum integration. Pores further away from bony anatomy measure 900µm, these increase the likelihood of improved cellular activity and bone ingrowth.

\bigcirc I C O S rapid design & delivery process



I C O S DEDICATED CUSTOM FIT TEAM

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