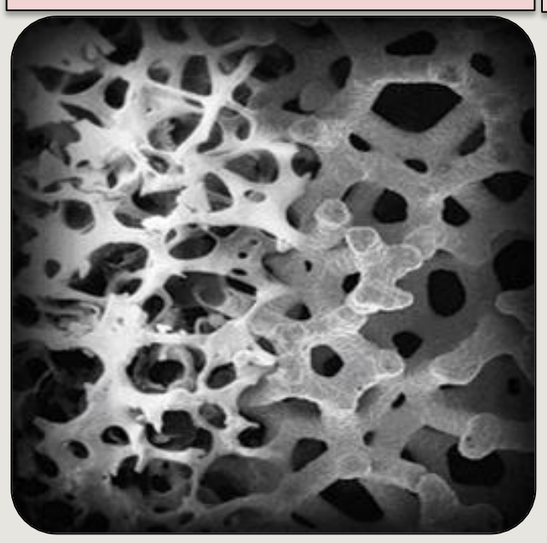
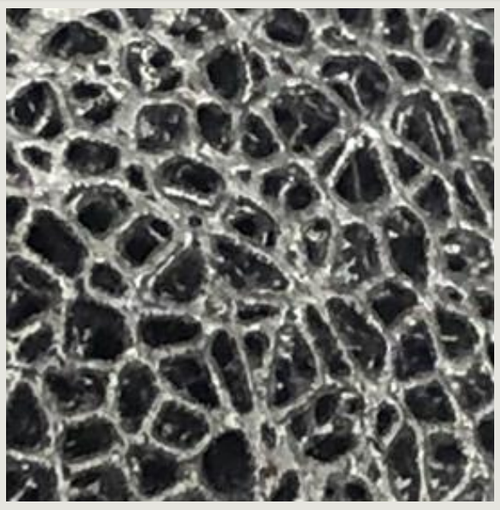
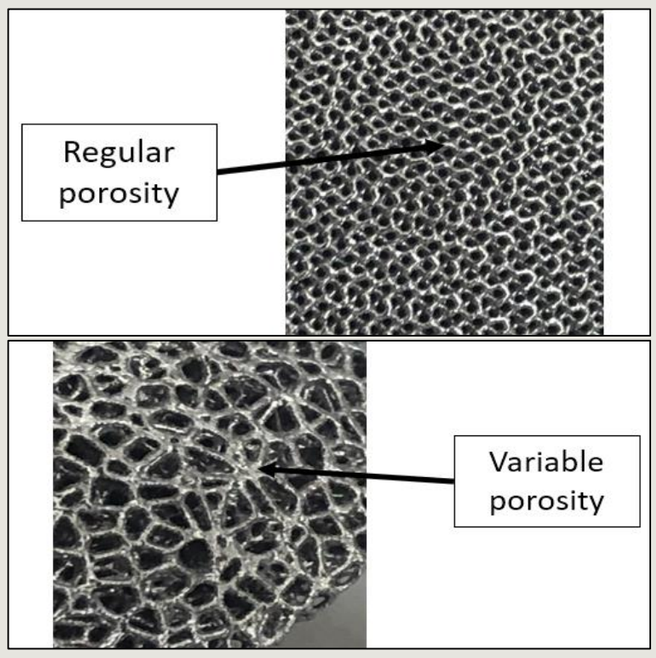
ADDITIVE MANUFACTURED PELVIS REVISION SURGERY IMPLANTS

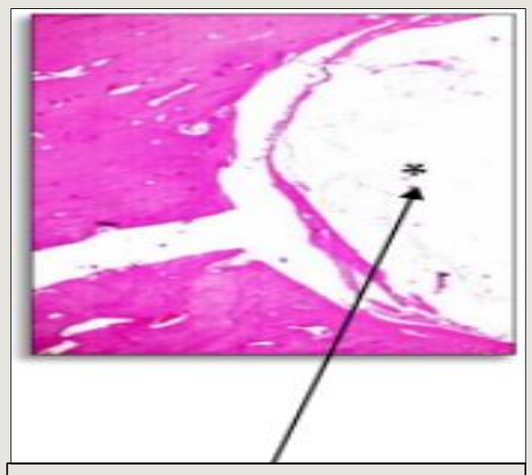
Bone Structure



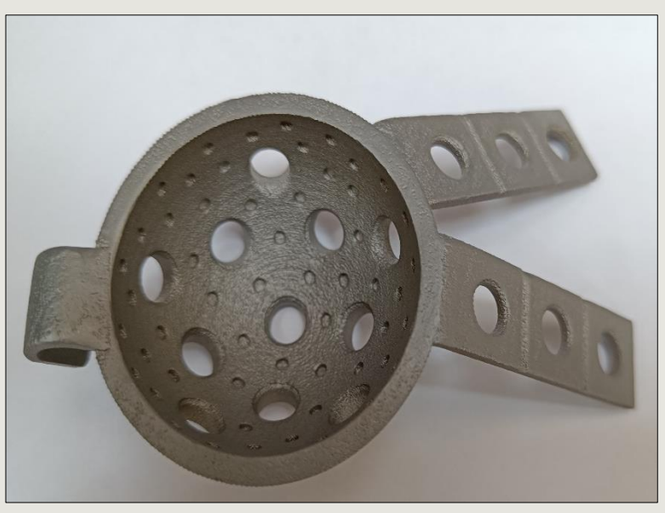
Lattice Structure







Asterisk showing new bony ingrowth at the implant site



Shell, Buttress & Shim Augment Implants

Cage Construct

Conventional implants are made of solid metals mainly Ti6Al4V ELI alloy. Mismatch in mechanical properties of Ti alloy and human bone causes stress shielding, loosening and failure of implants. This leads to revision surgery for replacement of implant . With the additive manufacturing technology, lattice/ trabecular structure can be manufactured that helps in biological fixation by promoting osseointegration between host bone and the implant. The lattice structures also reduce the elastic modulus of metal materials, decreasing the stress shielding effect and enhancing the life span of the implants.

AUGMENT IMPLANTS

- Shell augments are designed to act as a defect filling implant in the case of severe bone loss in the acetabulum.
- Buttress is designed to support the shell augments when the defect is spanned in large area.
- Shim Implants are designed to mate with the Buttress vis cement to raise the end of the buttress when pelvic geometries require support.

CAGE CONSTRUCT

- Cage Construct are used for bridging the areas of acetabular bone loss and also to provide optimal congruity to the grafted acetabulum acetabular socket

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