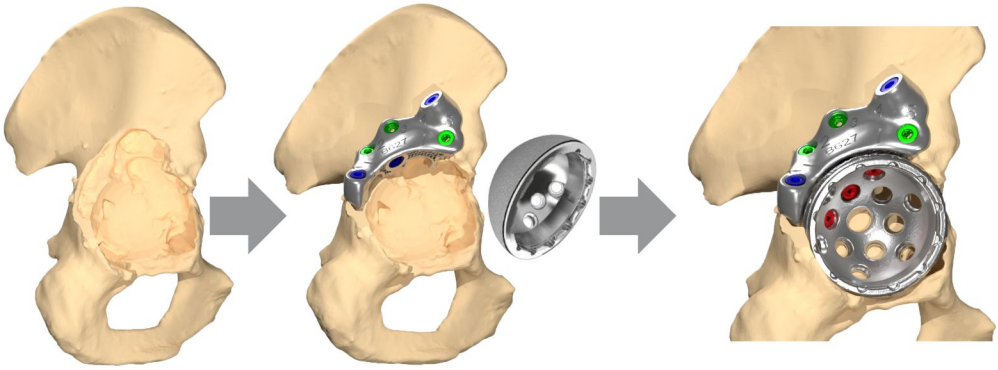
Jajal MEDICAL

Bose

Custom Columnar Docking* (CCD) Augment

* Docking – Divergent locking technology

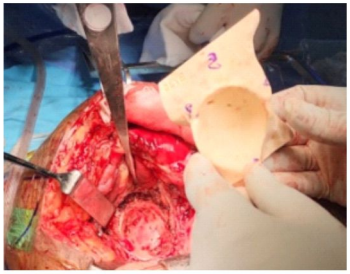
Surgical Technique

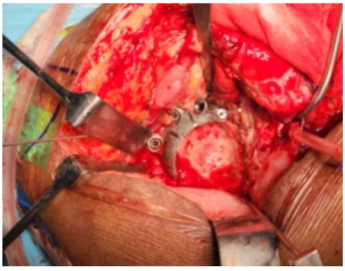


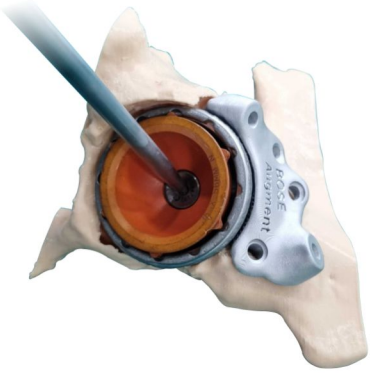
Simplify complex revision acetabular defects to a 'primary' type situation with the CCD augment

Bose CCD augment
Recommended surgical technique

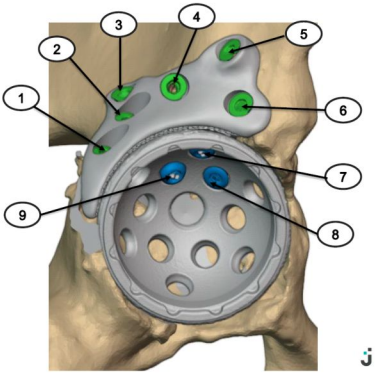
- Expose acetabulum and defect
- Remove previous hardware if any.
- As CCD augment is custom made, an important advantage is that the augment can be fit directly without the need for augment trials or matching the augment orientation to cup.
- The orientation of the augment to the defect is best made out with the help of the plastic l bone model provided. This is kept sterilised for intra –op reference.
- Once the soft tissues on the bone surface is cleared the augment can be provisionally fixed with 2mm k -wires though dedicated k-wire holes provided
- The augment usually fits snuggly on to the defect. If not , the common offender is soft tissues which must be removed
- Now acetabular reaming can be done . Set the reamers inferiorly and ream the socket progressively till A-P capture is obtained with cup trial. This size is likely to be close to the size calculated and provided from CT scan matching the inner dia. of augment.
- The trial & highly porous cup must get two-point fixation (A-P capture) from host bone without the augment. Typically, toggle will remain due to the defect.
- 3 sizes of highly porous cup is feasible enabling intra-op adjustment. (CT based recommended size, 2mm smaller cup and 2mm larger cup).
- The cup trial will get provisionally stability (not rigid stability)
- Now the screws of the augment can be applied. The length and type of screws is clearly marked in the digital template provided



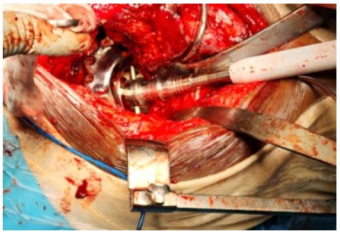




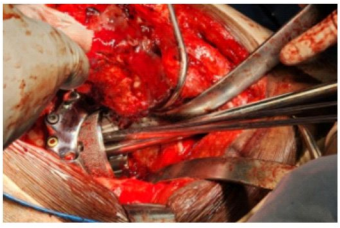
- Place the augment compression (non –locking) screws first which will be perpendicular to the plane of the augment to achieve compression. Lenth of compression screws predetermined (min two compression screws recommended,)
- Apply the columnar docking (divergent locking) screws which will be in different planes. Length of docking screws pre-determined.(2-3 recommended)



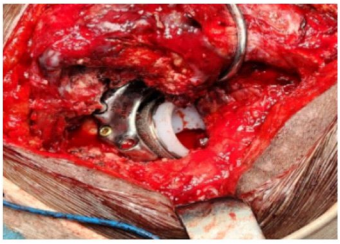
- Once the augment is securely fixed, it is advisable that a final reaming (cross-reaming) is done. As the docking augment is rigid, it will not allow any motion or expansion to accommodate the socket. Therefore, submillimetre amount of bone may need to be removed opposite the augment.



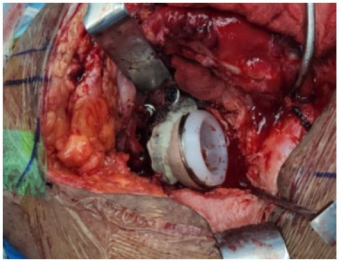
- Bring in the highly porous cup of choice ensuring the dome screw holes in the cup matches the inferior. pointing arrows marked on the augment so that the dome screws holes will be matched to custom augment windows



- Impact the cup after applying thin layer of cement over the porous cup in the area that is likely to engage the augment. A 2mm interface gap is made available for cement. Alternatively, cement can also be injected in the cup augment interface with syringe after cup is impacted fully.



- Insert cup dome screws through the customised augment windows. The more the number of dome screws the better. A very rigid 3 dimensionally stable construct is now obtained .



- Apply poly insert (cemented or non-cemented based on porous cup choice).

- **Compression screws:** (non- locking) perpendicular to augment to achieve compression of augment to host bone.
- **Docking screws:** CCD- Custom Columnar Divergent locking Anchors the augment to bone in a multi planar rigid clamp like framework to achieve an extremely rigid construct.
- **Dome screws:** passed through highly porous standard cup, traverses through special custom windows in CCD augment to achieve independent socket screw purchase.