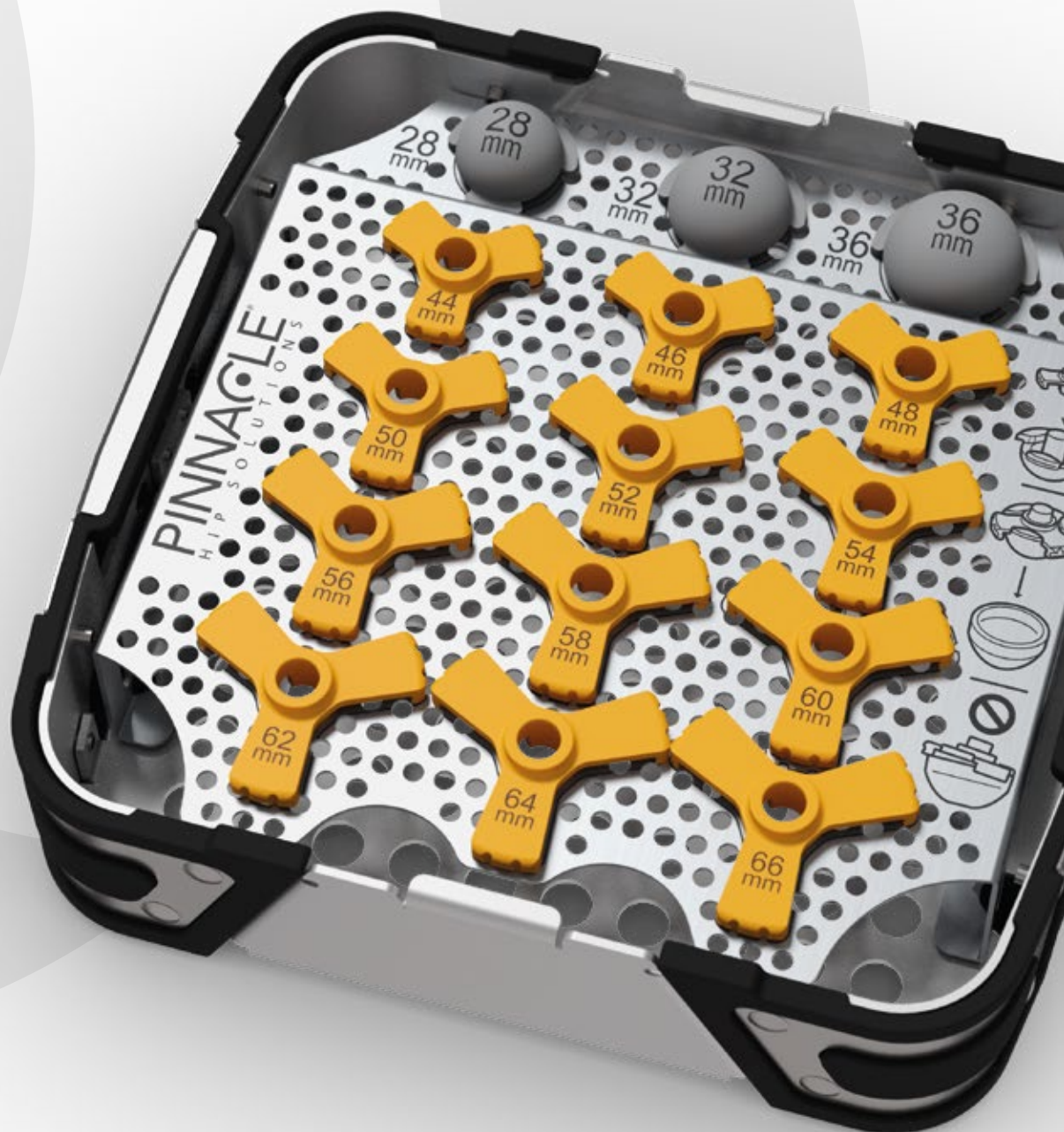


Ceramic Liner Inserter

Surgical Technique



SIZE SELECTION AND ASSEMBLY



Figure 1. PINNACLE Ceramic Liner Inserter instrument tray

Size Selection

- Select the appropriate size "Pusher" and "Gripper".
- Pusher size = inner diameter (Head size).
- Gripper size = outer diameter (Shell size).

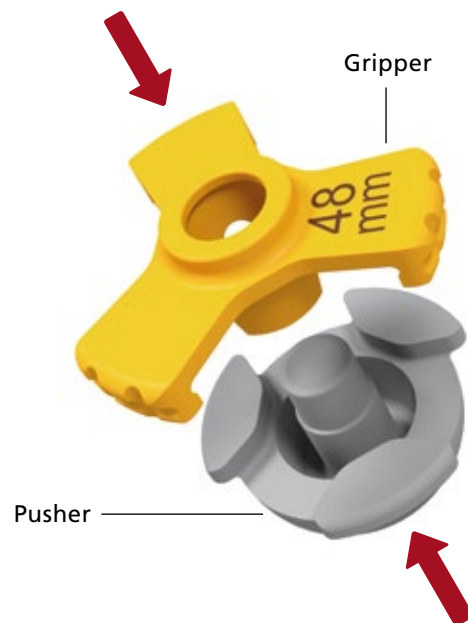


Figure 2. Assemble Pusher and Gripper

Assembly

- Orientate the Pusher and Gripper as shown.
- Align the Pusher with the central hole of the Gripper and firmly press together.
- Ensure that the Pusher arms are aligned with the gaps between the Gripper legs.

ASSEMBLY TO CERAMIC LINER



Figure 3. Assemble the Liner Inserter with the Ceramic Liner

Assemble to Ceramic Liner

- Place the subassembly on the ceramic liner with the gripper legs capturing the outer edge.

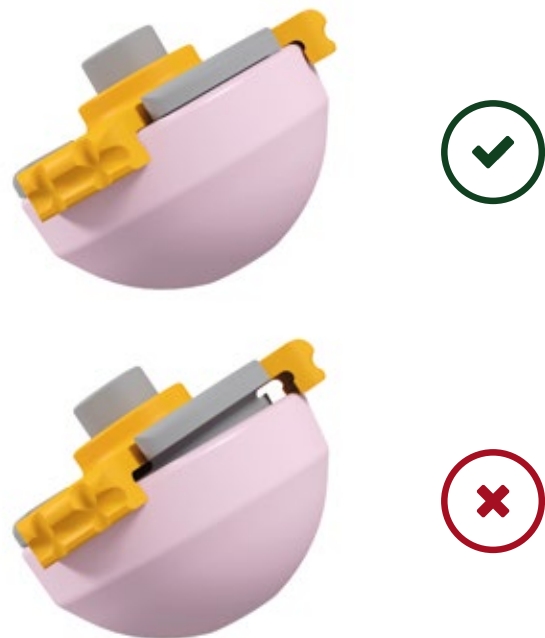


Figure 4. Correct and incorrect Liner Inserter seating

Verify

- To ensure liner alignment and verify that **all gripper legs are firmly fixed and flush** to the liner, this may require significant effort to clip on.

Note: Ensure the liner is held firmly during assembly.

Note: An audible click may be present during assembly.

INTRODUCTION TO THE WOUND AND EXPOSURE

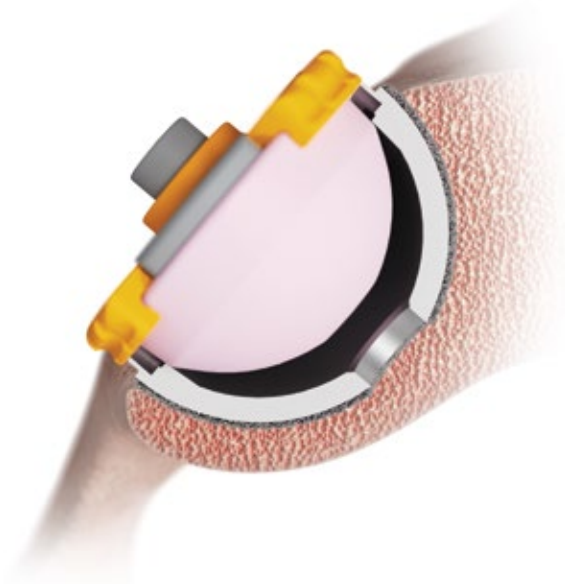


Figure 5. Position the device

- Carefully advance the liner into the incision and align the face of the gripper to the face of the implanted acetabular cup.
- Care should be taken to avoid soft tissue or bony impingement.
- Ensure all three gripper legs are in contact with the face of the acetabular shell.



Figure 6. Confirm position by rotating the Liner Inserter on the cup

- Should any bony or soft tissue impingement occur, remove the device from the wound and modify the retractor positions to improve exposure.

Note: Lack of soft tissue and bony impingement may be confirmed by rotating the Liner Inserter freely on the Cup.

DEPLOYMENT AND RETRIEVAL



Figure 7. Deploy the Ceramic Liner to the Acetabular Cup



Figure 8. Impact the Ceramic Liner to engage the VIP Taper

Deployment

- Using thumb or fingers manually deploy the device by firmly depressing the central button "A".



Note: No impaction should be used when deploying the device; Do not attempt to fully engage the taper locking mechanism by striking the Liner Inserter.

When the liner is released from the gripper and is "flush" with the face of the shell an audible cue should be apparent.

Retrieval

- Carefully retrieve the device from the wound.
- Palpate the liner to confirm proper taper alignment and seating in the cup.

Note: A small amount of canter is tolerable as the liner will self-right on final impaction.



Taper Engagement

- Impact the liner as per the standard PINNACLE technique in order to fully seat the liner.

DEFLECTED CUPS: DECISION MAKING

Excessive cup deflection, as seen with young patients or under reamed bone, may present itself as considerable resistance to manual deployment of the liner inserter.

In such cases the surgeon may encounter several scenarios outside the expected usage:

- Non deployment
- Partial deployment
- Deployment resulting in a canted liner

The recommended course of action below can be followed:

- Impaction should not be used to facilitate the deployment.
- The liner inserter and ceramic liner should be carefully removed from the wound.
- The acetabular cup should be removed from the wound
- The acetabulum should be enlarged (i.e. line-to-line) while ensuring adequate press-fit is achieved.
- Repeat the previous steps as normal.

ORDERING INFORMATION



Cat No	Description
2004-20-933	PINNACLE Ceramic Liner Inserter Case Lid
2220-00-231	PINNACLE Ceramic Liner Inserter Case Inner Tray
2220-00-230	PINNACLE Ceramic Liner Inserter Case Outer Tray

2218-10-028	PINNACLE Ceramic Liner Inserter 28 mm Pusher
2218-10-032	PINNACLE Ceramic Liner Inserter 32 mm Pusher
2218-10-036	PINNACLE Ceramic Liner Inserter 36 mm Pusher

2218-10-044	PINNACLE Ceramic Liner Inserter 44 mm Gripper
2218-10-046	PINNACLE Ceramic Liner Inserter 46 mm Gripper
2218-10-048	PINNACLE Ceramic Liner Inserter 48 mm Gripper
2218-10-050	PINNACLE Ceramic Liner Inserter 50 mm Gripper
2218-10-052	PINNACLE Ceramic Liner Inserter 52 mm Gripper
2218-10-054	PINNACLE Ceramic Liner Inserter 54 mm Gripper
2218-10-056	PINNACLE Ceramic Liner Inserter 56 mm Gripper
2218-10-058	PINNACLE Ceramic Liner Inserter 58 mm Gripper
2218-10-060	PINNACLE Ceramic Liner Inserter 60 mm Gripper
2218-10-062	PINNACLE Ceramic Liner Inserter 62 mm Gripper
2218-10-064	PINNACLE Ceramic Liner Inserter 64 mm Gripper
2218-10-066	PINNACLE Ceramic Liner Inserter 66 mm Gripper



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CA#DSEM/JRC/0716/0688(1) Issued: 10/16