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## New Technique for Open and Robotic Perineal Hernia Repair: Conical Mesh and posterior Vertical Rectus Abdominis Musculofascial Flap (VRAM)

**Background:** In the funnel-shaped pelvis, the key principles of hernia surgery — broad mesh overlap and secure fixation — cannot be achieved with a flat mesh. To overcome this, we invented a custom-designed conical polypropylene mesh, we call our “coffee filter mesh”. Mesh-Fixation is performed with titan-tacks and polypropylene-sutures, the defect is filled using a posterior rectus abdominis flap via open or robotic approach to avoid seroma and adhesions



### Open Coffee-Filter-Mesh & posterior VRAM

#### ► Case 1:

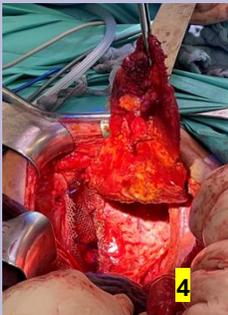
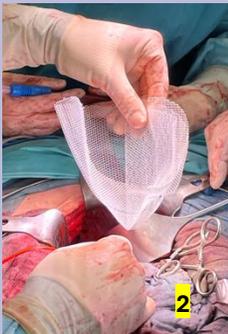
59y. male patient, painful 7 cm hernia recurrence after open ELAPE, anterior Mesh, V-Y flap, 2x perineal Mesh



Custom-'Coffee Filter Mesh' in situ



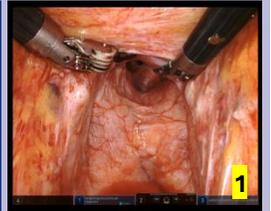
VRAM-flap fills the gap



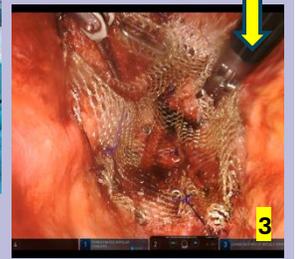
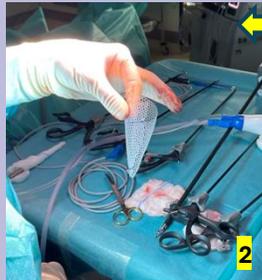
### Robotic Coffee-Filter-Mesh & robotic VRAM

► Case 2: male, 70y. painful 3 cm perineal hernia after robotic APE

► Case 3: male, 72y. painful 4 cm perineal hernia after robotic APE



Custom-'Coffee Filter Mesh' in situ



rVRAM-flap fills the gap, fixes and covers the Mesh, avoiding contact to the bowel



**Results:** Operating times were 222 (open), 204, and 128 min (robotic); flap harvest times were 66 (open), 42 and 37 min (robotic). Wound healing was uneventful. Follow-up at 13, 10, and 8 months showed no recurrence and no abdominal wall morbidity.

**Conclusion:** Combining a custom coffee-filter-shaped mesh with an open or robotic VRAM-flap is a safe and effective approach for perineal hernia repair. This method ensures stable coverage, preserves abdominal wall integrity, and minimizes complications.

**Call for Collaboration:** Our robotic center seeks experienced partners to standardize the technique and to initiate a multicenter study. [Skander.Bouassida@vivantes.de](mailto:Skander.Bouassida@vivantes.de)