

# ADHESIVE SEALANT BIOMATERIALS

Clinical Series

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## Use of TissuePatch3™ to enhance Aerostasis for VATS Bullectomy for Giant Bulla

### Pre-operative status

A 39 year old current tobacco and cannabis smoker of 25 years developed progressive exertional dyspnoea. He was unable to walk up a flight of stairs and carry on with his job as a machinist. A CT scan showed giant bullae bilaterally. Pulmonary function tests showed a FEV1 1.13 (29%), FVC 1.97 (41%), FEV1:FVC 57%, DLCO 46%. Serum alpha 1 antitrypsin was normal. As part of staged bilateral bullectomy he returned following a successful right sided VATS bullectomy 8 months previously with improvement in his symptoms.

### Surgical procedure

The patient was placed in the right lateral decubitus position and thoracoscopy was carried out with three ports. The lung was grossly emphysematous and the tissue friable. The right upper lobe bullae were deflated, and the bullae resected with serial firings of an EZ45 stapler without Peristrip buttressing.

### Treatment with TissuePatch3

Two pieces of 100 x 50 mm TissuePatch3 were divided longitudinally into four 25 x 100mm strips. They were introduced into the chest through a VATS port, mounted on a pair of Roberts. They were positioned and draped over the staple line where they provide reinforcement of the staple line, especially at the cut edge even when not protected by buttressing.

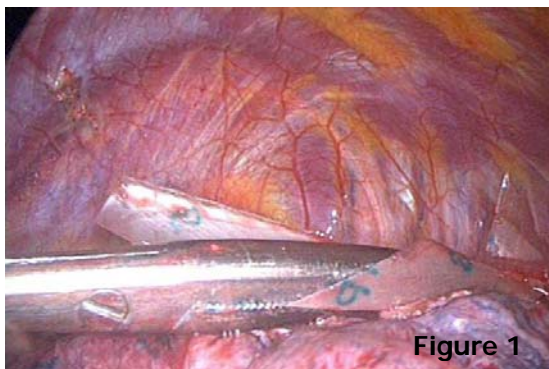


Figure 1

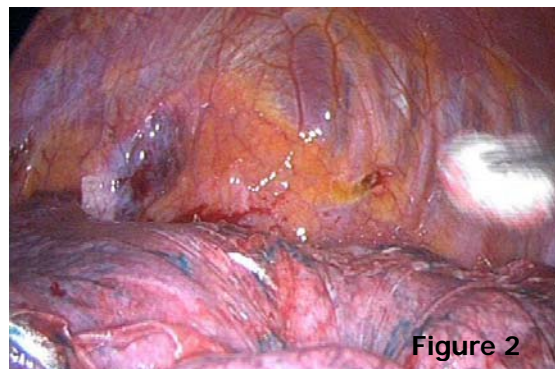


Figure 2

**Figure 1** Insertion through VATS port

**Figure 2** Patch positioned and clearly adherent to tissue surface over staple line. Adhesion facilitated using dry "peanut" as shown.

### Progress

Following extubation, the patient did very well with no detectable air leak and did not require suction on the chest drains. The drains were removed 2 days following operation and the patient returned home on the very same day without complications.

### Surgeon opinion of TissuePatch3

TissuePatch3 is easy to handle, does not require preparation time, and appears effective at attenuating air leak in patients with severe emphysema whose lung tissue are thin and prone to tearing upon re-expansion of the lung - especially where there is increased tension such as from a staple line.