

TECHNIQUE

The supine abdomen is prepared as standard and the abdominal cavity irrigated gently, taking care not to disrupt any of the viscera. Appropriate skin flaps are raised, exposing the anterior fascial sheath for 3-4cm laterally. Once mobilised, the upper and lower limits of the wound skin are closed tension-free over several centimetres. Vacuum foam is cut-to-fit within the remaining POA. Standard rubber loops are applied as 'skin-stretch', criss-crossing the open wound to generate dynamic skin tension.

Continue this over and back in an alternating fashion (Roman-sandal configuration), then place a standard vacuum seal (100-125mmHg) over the entire complex. Return the patient to the operating room every three to four days for a repeat procedure, but with serial tension-free closure of the POA skin each time until complete closure is achieved. This should take three to four 'take backs' over about seven to ten days.

DISCUSSION

This 'skin-only' closure combines two separate techniques: dynamic skin-stretch and vacuum therapy. Although it can be a long-term solution, patients typically opt for a formal abdominal wall reconstruction later.^{2,3} Other more permanent reconstructions (eg component separation) are 'one-shot' techniques, best avoided during the acute phase of recovery when failure rates are high.² Although similar techniques on fascia are described, failure rates are high with concerns for future recovery of the sheath.⁴ Our technique utilises dynamic load cycling with mechanical skin creep across the open wound with displacement of redundant interstitial fluid, promoting wound angiogenesis and endothelial proliferation.⁵ This achieves closure at a time fundamental to recovery by 'switching off' the driver behind the systemic inflammatory response syndrome that the open abdomen generates, while avoiding the complications associated with other techniques.



Figure 5 Video of the Philadelphia Technique

References

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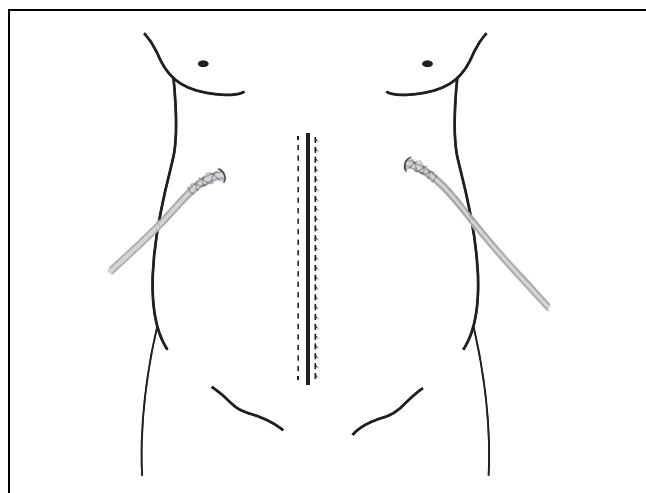


Figure 4 Complete closure of abdomen, possible from a combination of the skin-stretch Roman-sandal configuration with negative pressure vacuum abdominal dressing (the Philadelphia Technique)

Open exploration converted to laparoscopic: a useful technique in emergency hernia surgery

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BACKGROUND

Sometimes, unintended reduction of a strangulated hernia can occur intraoperatively, while manipulating the sac, leading to uncertainty about the viability of its contents.¹ We describe a technique that helps to identify any possible ischaemic tissue after an accidental reduction of strangulated hernia.

TECHNIQUE

Following accidental reduction of the sac contents of a strangulated hernia (Fig 1) into the abdominal cavity, a 10mm port is placed



Figure 1 Strangulated abdominal hernia. Hernia sac was opened and bowel was visualised.

intra-abdominally via the open hernia sac (Fig 2) after inserting a pursestring suture, to prevent a leak of CO₂. Alternatively, if the defect is small, a balloon port can be used. Pneumoperitoneum is established. A 10mm scope is used for laparoscopy of the abdominal cavity. The reduced contents are typically close to the port site. Nevertheless, a full laparoscopy and insertion of a 5mm port through the abdominal wall is recommended, in order to inspect as much of the bowel as possible.

In case of finding ischaemic bowel, there are two options: 1) to guide the loop of bowel through the hernia defect, with the use of a laparoscopic atraumatic grasper via the 5mm abdominal port, or 2) to switch to a 5mm scope and with a Babcock forceps, via the hernia site, to externalise the bowel and perform a resection and anastomosis. Some extension of the original incision may be needed.

DISCUSSION

This technique is safe and avoids unnecessary extensive laparotomies in case of accidental intraoperative reduction of a strangulated hernia content.

Reference

1. Yang GP. Laparoscopy in emergency hernia repair. *Ann Laparosc Endosc Surg* 2017; 2: 107.



Figure 2 A 10mm port was inserted, via the hernia sac opening, in the peritoneal cavity

How to perform safe laparoscopic extraction of surgical specimen during the COVID-19 era

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BACKGROUND

As elective and emergency laparoscopic surgery recommences after the height of COVID-19 in the UK, we note a relative dearth of practical accounts detailing how to minimise viral aerosolisation in laparoscopy. This is in the context of recent reports confirming the presence of SARS-CoV-2 in blood,¹ soft tissues² and peritoneal fluid³ of infected patients, as well as the known significant occupational pathogenicity caused by viruses contained in inhaled surgical smoke.⁴ Extraction of specimen(s) represents a point of maximal potential for viral aerosolisation; we feel that a safe routine is difficult to improvise during surgery due to the quick succession of events.

We share our experience of this process which is well-rehearsed and reproducible. The overall principles apply to all laparoscopy requiring retrieval of specimen.

TECHNIQUE

Our stepwise method is outlined in Figure 1. On procedure completion, the surgical specimen should be held securely in a retrieval bag under the extraction port (Fig 2) until capnoperitoneum can be