

Hybrid minimal access surgery

Hybrid minimal access surgery

Hybrid surgery may utilise a combination of flexible and straight stick endoscopic approaches or a combination of open and endoscopic surgery. Totally endoscopic hybrid approach The diseased organ is visualised and treated by an assortment of endoluminal and extraluminal endoscopes and other imaging devices. In the abdomen, examples include the combined laparo-endoscopic approach for the management of biliary lithiasis, colonic polyp excision and several urological procedures, such as pyeloplasty and donor nephrectomy. In the thorax, navigational bronchoscopy with placement of fiducial markers has been employed as a means of marking lung nodules that can then be resected via a minimal access video-assisted approach. Cardiovascular surgeons have - for some time employed hybrid technologies to facilitate catheter-based placement of cardiac valves, atrial devices and - intravascular stents. Hybrid techniques offer improved visualisation, facilitating - the primary procedure to be carried out either via a smaller incision or a minimal access approach where otherwise open e sig - surgery would have been necessary. Such approaches may necessitate the availability of 'hybrid' theatre facilities, limit - ing this approach to tertiary centres where such technology is available (Figure 10.1). Open and endoscopic hybrid approach Hand-assisted laparoscopic surgery (HALS) is a well-developed technique. It involves the intra-abdominal placement of a

Figure 10.1 Modern hybrid theatre set-up (courtesy of Mr Kelvin Lau, Barts Thorax Centre, London, UK).

pneumoperitoneum is maintained. In this way, the surgeon's hand can be used as in an open procedure. It can be used to palpate organs or tumours, reflect organs atraumatically, retract structures, identify vessels, dissect bluntly along a tissue plane and provide finger pressure to bleeding points, while proximal control is achieved. This approach has been suggested to offer technical and economic efficiency when compared with a totally laparoscopic approach, in some instances reducing both the number of laparoscopic ports and the number of instruments required. Indeed, some advocates argue that if such an incision is necessary for extraction of the final specimen then HALS does not significantly increase surgical trauma over totally laparoscopic approaches. Furthermore, for those trained in open surgery it may be easier to learn and perform than totally laparoscopic approaches, subsequently improving patient safety. With the new generation of surgeons training in totally laparoscopic surgery it is likely that use of HALS will diminish, although it should remain part of the minimally invasive surgeon's armamentarium.

Hybrid minimal access surgery

Hybrid surgery may utilise a combination of flexible and straight stick endoscopic approaches or a combination of open and endoscopic surgery. Totally endoscopic hybrid approach The diseased organ is visualised and treated by an assortment of endoluminal and extraluminal endoscopes and other imaging devices. In the abdomen, examples include the combined laparo-endoscopic approach for the management of biliary lithiasis, colonic polyp excision and several urological procedures, such as pyeloplasty and donor nephrectomy. In the thorax, navigational bronchoscopy with placement of fiducial markers has been employed as a means of marking lung nodules that can then be resected via a minimal access video-assisted approach. Cardiovascular surgeons have - for some time employed hybrid technologies to facilitate catheter-based placement of cardiac valves, atrial devices and - intravascular stents. Hybrid techniques offer improved visualisation, facilitating - the primary procedure to be carried out either via a smaller incision or a minimal access approach where otherwise open e sig - surgery would have been necessary. Such approaches may necessitate the availability of 'hybrid' theatre facilities, limit - ing this approach to tertiary centres where such technology is available (Figure 10.1). Open and endoscopic hybrid approach Hand-assisted laparoscopic surgery (HALS) is a well-developed technique. It involves the intra-abdominal placement of a

Figure 10.1 Modern hybrid theatre set-up (courtesy of Mr Kelvin Lau, Barts Thorax Centre, London, UK).

pneumoperitoneum is maintained. In this way, the surgeon's hand can be used as in an open procedure. It can be used to palpate organs or tumours, reflect organs atraumatically, retract structures, identify vessels, dissect bluntly along a tissue plane and provide finger pressure to bleeding points, while proximal control is achieved. This approach has been suggested to offer technical and economic efficiency when compared with a totally laparoscopic approach, in some instances reducing both the number of laparoscopic ports and the number of instruments required. Indeed, some advocates argue that if such an incision is necessary for extraction of the final specimen then HALS does not significantly increase surgical trauma over totally laparoscopic approaches. Furthermore, for those trained in open surgery it may be easier to learn and perform than totally laparoscopic approaches, subsequently improving patient safety. With the new generation of surgeons training in totally laparoscopic surgery it is likely that use of HALS will diminish, although it should remain part of the minimally invasive surgeon's armamentarium.

Hybrid minimal access surgery

Hybrid surgery may utilise a combination of flexible and straight stick endoscopic approaches or a combination of open and endoscopic surgery. Totally endoscopic hybrid approach The diseased organ is visualised and treated by an assortment of endoluminal and extraluminal endoscopes and other imaging devices. In the abdomen, examples include the combined laparo-endoscopic approach for the management of biliary lithiasis, colonic polyp excision and several urological procedures, such as pyeloplasty and donor nephrectomy. In the thorax, navigational bronchoscopy with placement of fiducial markers has been employed as a means of marking lung nodules that can then be resected via a minimal access video-assisted approach. Cardiovascular surgeons have - for some time employed hybrid technologies to facilitate catheter-based placement of cardiac valves, atrial devices and - intravascular stents. Hybrid techniques offer improved visualisation, facilitating - the primary procedure to be carried out either via a smaller incision or a minimal access approach where otherwise open e sig - surgery would have been necessary. Such

approaches may necessitate the availability of 'hybrid' theatre facilities, limiting this approach to tertiary centres where such technology is available (Figure 10.1) . Open and endoscopic hybrid approach Hand-assisted laparoscopic surgery (HALS) is a well-developed technique. It involves the intra-abdominal placement of a

Figure 10.1 Modern hybrid theatre set-up (courtesy of Mr Kelvin Lau, Barts Thorax Centre, London, UK).

pneumoperitoneum is maintained. In this way , the surgeon's hand can be used as in an open procedure. It can be used to palpate organs or tumours, reflect organs atraumatically , retract structures, identify vessels, dissect bluntly along a tissue plane and provide finger pressure to bleeding points, while proximal control is achieved. This approach has been suggested to offer technical and economic efficiency when compared with a totally laparoscopic approach, in some instances reducing both the number of laparoscopic ports and the number of instruments required. Indeed, some advocates argue that if such an incision is necessary for extraction of the final specimen then HALS does not significantly increase surgical trauma over totally laparoscopic approaches. Furthermore, for those trained in open surgery it may be easier to learn and perform than totally laparoscopic approaches, subsequently improving patient safety . With the new generation of surgeons training in totally laparoscopic surgery it is likely that use of HALS will diminish, although it should remain part of the minimally invasive surgeon's armamentarium.

Revision #1

Created 2025-12-31 15:08:00 UTC by Omar Ayman

Updated 2025-12-31 15:08:00 UTC by Omar Ayman