

Hand Assisted Laproscopic Surgery an updated overview

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ABSTRACT:

Introduction: Hand assisted laparoscopic surgery is an updated highly advanced version of laparoscopic technique. Such technique bridges the gap between traditional surgery and total laparoscopic surgery. Introduction of the hand intracorporeally enhanced the degree of freedom, hence, a remarkable degree of precision and safety in task performance. Clinical and experimental studies confirmed safe use of the hand with insufflation pressure enhancing dexterity as well as a steep learning curve. Therefore, the author made an overview analysis to the factors related to safety; efficiency; dexterity; instrumentation and cost-effectiveness for the use of hand assisted laparoscopic surgery; with an emphasis on live donor nephrectomy. **Results and discussion:** Prospective studies made by Kolvenbach on the use of hand assisted laparoscopic surgery in aortic aneurysm repair proved high degree of safety and efficiency as well as cost effectiveness. Several studies highlighted a multitude of factors significantly contributing into a high degree of precision and task performance; which reflected on uneventful enhanced recovery programme. The introduction of either hand intracorporeally enhanced the limited degree of freedom for the current laparoscopic tools. There are various hand port devices of which the pros and cons for each port will be discussed in detail. The author's experimental studies confirmed that optimum safe insufflation pressure would be 10 mm Hg with no leak from the hand port and optimum dexterity and task performance. **Conclusion:** Hand assisted laparoscopic surgery is a safe and efficient technique. It significantly enhances concept of Enhanced Recovery programme. Raising public awareness can provide a high impact in enhancing live donor nephrectomy; hence reducing the inexorable renal transplant waiting list for patients with end stage renal disease. Such patients are at progressive rise of mortality risk with prolonged waiting list.

INTRODUCTION:

Hand-assisted laparoscopic surgery (HALS) could be a somewhat totally different technique than that of laparoscopic-assisted surgery. With HALS, a sleeve appliance is employed to take care of pneumoperitoneum whereas the operator's hand is inserted through a little incision into the abdomen.

TECHNIQUES:

Laparoscopic colon resections were first performed within the Nineties (1). However, like any new technique and ability, there was an associated learning curve that originally restricted its wide use and acceptance (2). Moreover, there have been issues that laparotomy is also associated with inferior oncological technique, compared to standard open surgery (3). Hand-assisted laparoscopic surgery (HALS) was developed as

a method to mitigate these issues. The conception of HALS for large intestine surgery was first delineated within the mid-1990s as the simplest way to bridge the gap between straight laparotomy and ancient open surgery. In essence, HALS was planned as a way to mix the simplest components and overcome the difficulties of open and laparoscopic surgery in an exceedingly hybrid technique (4). Ultimately, many studies incontestable oncological equivalency between laparoscopic and open large intestine surgery. What is more, laparotomy seems to own many edges over open surgery, together with shorter length of stay and recovery in addition as improved pain management and cosmesis (5). Over the last virtually thirty years, there has been a gentle increase within the use of laparotomy in large intestine surgery and a concomitant decrease within the use of typical open surgery (6,7). As a result of laparotomy has become rather more accepted and used, the fashionable large intestine doc is changing into progressively facile with straight laparoscopic surgical (SLS) techniques. As large intestine surgeons become superior with laparotomy, the role of HALS in large intestine surgery is also less well outlined. All the same, HALS will still offer a very important tool within the repertoire of a large intestine doc. This text can discuss a number of the benefits and downsides of HALS, because it compares to SLS, in addition as describe some operative techniques in large intestine HALS.

ADVANTAGES:

HALS takes advantage of the very fact that, no matter laparoscopic technique, at some purpose within the operation a bigger incision can have to be compelled to be created to extract the specimen. Proponents of HALS thus argue that this incision is created early within the operation and be used throughout the surgery to reinforce adeptness and potency of the doc. In HALS, the doc inserts one hand into the bodily cavity through a hand assist device, usually to produce exposure, whereas the opposite hand works through a laparoscopic trocar, usually victimization Associate in Nursing energy device. The goal of the hand-assist is to produce greatest exposure and assist with dissection whereas remaining the maximum amount out of camera consider doable. Often, the third, fourth and fifth fingers will offer retraction whereas the thumb and forefinger square measure wont to grasp, expose target anatomy or dissect. With the HALS approach, the doc will get additional tactile feedback and procure broader exposure that's less dependent on the assistant, compared with straight laparotomy. A incision pad is placed at intervals the abdomen before securing the hand assist device, which may facilitate with retraction, cleanup the camera and keeping the field dry. Although, if this move is performed, it's crucial to own a reminder to get rid of it before final closure to avoid a maintained foreign body. In general, HALS is best fitted to patients who square measure candidates for laparoscopic surgery, however whose surgery is also tough to performed victimization straight

laparotomy, like those with a high body mass index (BMI), WHO have large malady, or if there's a high concern for conversion to open surgery (8). HAND motor-assisted

LAPROSCOPIC SURGERY IN CROHN'S DISEASE:

In patients with Crohn's malady (CD) WHO could have undergone multiple open surgeries, it's sometimes tough to explore totally laparoscopic surgery once more, particularly if sophisticated by abscesses, fistulas or conjugation leaks. Thus, there comes another different to laparoscopic surgery for the treatment of large intestine diseases named Hand-assisted laparoscopic surgery (HALS), that is often employed in patients with higher surgical complexness or BMI (1,2). many studies have according that HALS maintains the benefits of laparoscopic surgery and has no variations compared with full laparoscopic surgery within the aspects like period of operation, pain, time for recovery, and hospital stays (3-7). the appliance of HALS in colectomy permits surgeons to own tactile feedback and manual help, and build the treatment of huge inflammatory phlegmons or fibrotic plenty

easier, like those related to redness or CD (8,9). Similarly, the hostile abdomen with various adhesions or complicated fistula is also additional with efficiency sorted out with a hand within the greater peritoneal sac. this method could broaden the appliance of minimally invasive colectomy (10). PREPARATION : Firstly, the patient is in supine position, then straps or bean bag square measure required for the safety of patient once steep table position changes (4). Secondly, a nasogastric or Associate in Nursing orogastric tube is placed for pressure the abdomen and a urinary tubing is placed in patient's bladder Operating room personnel used for this procedure square measure identical as for Associate in Nursing open right hemicolectomy. The nurse and assistant stand on the patient's right aspect at first, whereas the doc is on the opposite aspect facing patient's right colon. in the end the trocars square measure placed, the assistant moves to the left aspect of patient so as to direct the camera.