Abdominal wall closure and laparoscopic port closure

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Abdominal wound closure technique The surgical technique involved in abdominal wall closure varies from hospital to hospital with practice heavily influenced by local opinion and training exposure. The objective of abdominal wall closure is to provide a tension-free closure with adequate strength to prevent early dehiscence or an incisional hernia in the long term. Most abdominal incisions are closed such that the rectus sheath or linea alba is approximated in a continuous manner using delayed absorbab le or non-absorbable sutures employing a five-eighths circle, round-bodied, blunt-tipped needle. How ever, despite a plethora of meta-analyses certain controversies abound. /uni25CF Layered versus mass closure of the abdomen Abdominal wounds can be closed either by closing all lay ers of the abdomen (musculoaponeurotic layers avoiding skin) together or by closing individual layers of the rectus sheath. An alterna tive would be to approximate only the anterior rectus sheath in situations where mass closure is not feasible (Figure 7.17). /uni25CF Continuous versus interrupted sutures . Simple continuous sutures theoretically seem to be better than interrupted sutures as the tension is evenly distributed, re sulting in less ischaemia; in addition, they are quicker to perform. The literature supporting this practice is, how ev er, sparse. /uni25CF Absorbable versus delayed absorbable versus non-absorbable suture material . Delayed Figure 7.17 (a) (b) the suture material of choice. In patients with multiple previous operations, non-absorbable material such as - nylon or polypropylene may be an alternative. /uni25CF Big bites, big needle versus small bites, small needle . Abdominal closure is commonly performed by placing the sutures 1 /uni00A0 cm apart from each other and 1 /uni00A0 cm from the fascial edge. Recent studies have shown decreased incisional hernia when the interval between sutures is reduced to 0.5 /uni00A0 cm and performed using a smaller sized needle (2.0 PDS as opposed to the much larger 1 PDS). It is argued that the larger needle causes buttonhole defects when compared with the entry point of a narrow needle and thread. This, coupled with the increased distance between bites, causes the suture to act like a cheese wire through the tissue, thereby slackening the stitch and result - ing in hernia. Despite these variations in practice it is important to pro - vide a tension-free approximation, to avoid subcutaneous fat (as the fat is likely to necrose) and, if employing a continuous - suturing technique, to start from the inferior and superior ends with two separate sutures and meet in the middle to aid in better visualisation of the final stitches. . -

(a) (b) Abdominal closure techniques. Layered closure. /uni00A0 Mass closure of all musculoaponeurotic layers (courtesy of Dr Vinay Timothy Kuruvilla).

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