

Clinical work

Following ample clinical experience with laparoscopy assisted aortofemoral bypass, whereby laparoscopic retroperitoneal dissection of the infrarenal aorta was followed by hand-sewn aortic anastomosis via a small incision, we have embarked on total laparoscopic procedures whereby the anastomosis was constructed with the help of a robotic system (Fig. 38.1).

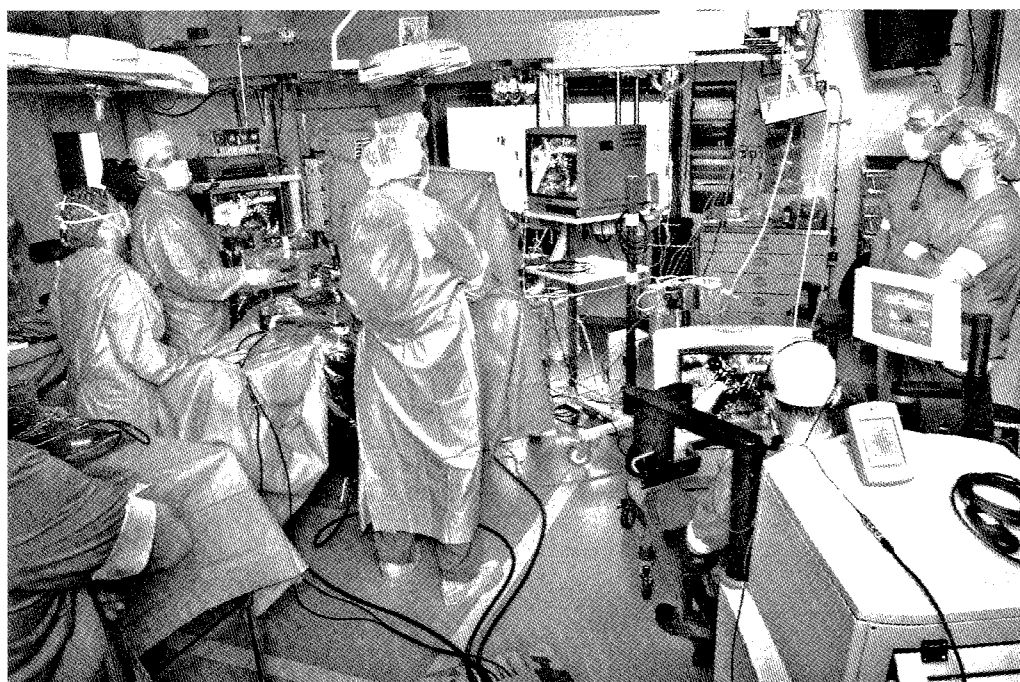


Fig. 38.1. – Robot-assisted laparoscopic aortic bypass at the Vrije University Medical Center. *Left:* sterile area with telemanipulator arms mounted on operating table. *Right:* console with 3D-monitor and control arms.

Methods

Between February 2002 and February 2003, five men, 54 ± 4 years old, presented with disabling claudication due to extensive aortoiliac occlusive disease¹⁰. Previous attempts at endovascular recanalization had failed in four. Following extensive laboratory practice sessions with a robotic surgical system (Zeus, Computer Motion, Santa Barbara, CA), approval of our hospital Investigation Review Board, and patient informed consent, all underwent robot assisted, laparoscopic aortobifemoral bypass grafting at the Vrije Universiteit Medical Center.

Surgical technique

Details of surgical technique have been described elsewhere¹⁷. In short: under general anaesthesia, the patient is positioned supine with a pillow under the left flank. Three