

LAPAROSCOPIC SURGICAL TRAINING - A THREE STAGES MODEL -

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LAPAROSCOPIC SURGICAL TRAINING. A THREE STAGES MODEL (Abstract): The classic "Halstedian" apprenticeship model for surgical training takes place into the operating theater under the strict coordination of a senior surgeon. The development of minimally invasive surgery (MIS) rapidly revealed that this apprenticeship model is insufficient to successfully fulfill the well known three stages of training of Rasmussen model – skill-based behavior (SBB), rule-based behavior (RBB) and knowledge-based behavior (KBB) – due to ethical, medico-legal and economic considerations and a specific training using different methods (theoretical and hands-on courses using simulators, animal models and web resources) is mandatory. However it isn't a worldwide accepted laparoscopic training curriculum. We present our experience with different types of teaching methods; in this way we retrospectively reviewed our experience in laparoscopic education, presenting data using Rasmussen model, as a dynamic three stages model: 1) first stage (the beginning), from 1993 until 1995, our staff acquired SBB, RBB and KBB for basic MIS procedures: cholecystectomy, appendectomy, surgical ablation of ovarian cysts; 2) the second stage, from 1996 until 1999, characterized by continuous training of our surgical staff until the achievement of the KBB level for basic MIS procedures and training for other operations (laparoscopic treatment of the groin hernias, eso-gastric and bariatric surgery) and the teaching of the residents and the surgeons from Moldova region to achieve SBB and RBB for basic MIS procedures; 3) the third stage, from 2000 until present characterized by a continuous improvement of the surgical teams' laparoscopic skills for different procedures, and developing a modern curricula for laparoscopic education. **CONCLUSIONS:** There is no universal method for laparoscopic training. Our experience demonstrates good results using a combination of training methods which allowed acquiring: SBB (Basic skills) using virtual reality (VR) simulators and box trainers; RBB (especially for laparoscopic cholecystectomy) using multimedia resources, live operations / proctorship, VR simulators (with force feed-back), box trainers (liver-gallbladder porcine model) and live pig surgery; KBB using VR simulators, multimedia resources, live operation / proctorship, and live pig surgery. An assessment method for laparoscopic training is mandatory; in this way we prefer reviewing the recording data by experts using Global Rating Score (GRS).

KEY WORDS: LAPAROSCOPY; TRAINING; SURGICAL EDUCATION; SIMULATORS; HUMAN BEHAVIOR

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