

# Minimal access surgery training in South Africa – changing philosophy and enabling the future

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In this issue two articles highlight the experience with inguinal hernia repair in public facilities affiliated to tertiary university centres in a South African setting.<sup>1,2</sup> In the first paper, the authors highlight their single-centre experience with inguinal hernia repair over a five-year period, and in the other the authors recount their one-year multicentre experience with inguinal hernia repair. Interestingly, the number of inguinal hernia repairs performed minimally invasively in both series was relatively low. In the first paper, there was more involvement of trainees in the performance of both laparoscopic and open inguinal hernia repair,<sup>1</sup> while in the second study, only 15% of the hernias were repaired laparoscopically and 75% underwent open repair<sup>2</sup>. There was less involvement of trainees as first surgeons in the procedures. Both articles reflect a relatively low utilisation of laparoscopic inguinal hernia repair in public training facilities in South Africa. The experience in the private sector, as recounted by McGuire et al.,<sup>3</sup> also describes an equally low uptake in the private sector.

These studies provide a window into the current situation of minimal access surgery in the general surgery domain and give one cause to reflect on the training in minimal access surgery and what is needed to be done to improve on training. The South African Society of Endoscopic Surgery (SASES) was established in 1991 and held its first congress in 1994; training at that time was workshop and industry driven. In general, academic departments were slow to embrace the concept, but over the years several dry and wet skills laboratories have been established; these have developed courses, endorsed under the banner of SASES and the CMSA (College of Surgeons), to develop basic and intermediate levels of skill. SASES has also established a number of minimal access fellowships that have facilitated individual trainee's exposure to more advanced procedural training. More recently, in 2014, the Hernia Interest Group (HIG) in South Africa was established to coordinate and focus common interest in hernia surgery amongst surgeons, to establish a national database on hernia surgery experience in the country, and to coordinate training programmes across the country. The South African hernia guidelines are now well-established and were recently revised.<sup>4</sup> A national database has been established which has led to several

publications.<sup>5</sup> There are now well-established training centres in the country that include training in hernia repair as part of their minimal access surgery training.

It is clear from these studies that there is an upward trajectory in the utilisation of minimal access techniques for inguinal hernia repair in South Africa.<sup>6</sup> However despite this, we are falling short in formalising the training of surgeons in minimal access surgery. South Africa needs a clearly articulated national strategy, which can be adopted by all surgical training institutions, that will ensure that training in minimal access surgery is thoroughly integrated and continues at an accelerated pace. After all, minimal access surgery, firmly grounded on traditional surgical principles of operative anatomy, applied physiology and pathology, is the current vanguard of surgical technique. Developments in fibre optics and robotics herald innovation that the surgical community needs to embrace to position itself to take this field of surgery forward in South Africa.

A structured, integrated curriculum with a balance between foundational and sophisticated surgery, will be affordable within the current economic constraints and will curb wastage, enhance recovery, reduce hospital stays, streamline the holistic development of the modern surgeon in South Africa, and will meet the healthcare expectation needs of all our people. The training system will qualify surgeons who are thoroughly equipped to be internationally competitive, without having any “developing world” stigmata.

Minimal access surgery requires the acquisition of an array of psychomotor technical skills and should be taught by individuals trained in modern educational principles.<sup>7</sup> Minimal access surgery lends itself to dry lab practice of techniques. Prerequisite dry lab training and proof of proficiency will be essential before trainees are allowed to operate, and then only under supervision. Expert proctoring is essential and operations may be divided into parts, done by different members of the team, depending on the level of expertise of the individual trainee, e.g. insufflation, port placement, adhesion release, followed by the surgeon doing the index operation.<sup>7</sup> In addition to these training paradigms, for minimal access surgery to be widely adopted, it must become a “service tool” that is used regularly.

South Africa is ideally positioned for training in laparoscopic surgery with our routine workloads providing the case load for training. There are sufficient numbers of hernias to be repaired. Trauma provides several learning opportunities for diagnostic and therapeutic interventions. Complicated appendicitis and perforated peptic ulcer repair lend themselves to full abdominal toilet from diaphragm to pelvis.

In the past the South African qualified surgeon was equipped with skills that were the envy of the rest of the world. Many surgeons came here to learn and hone their skills. Only a complete package of skills, as outlined above, will help us to maintain that standard. We have crossed the Rubicon and there is no going back. SASES and CMSA need to formulate a National Policy Framework that will address three fundamental issues: a national curriculum that will standardise training in minimal access surgery across all training platforms, the provision of skills laboratories to train technical skills prior to clinical exposure, e.g. intracorporeal suturing, a focused strategy to develop and capacitate trainers/mentors in minimal access surgery.<sup>8</sup> In addition to these fundamentals consideration should be given to establishing a certificate in minimally invasive surgery. The vision is that the coast to coast accessibility of the proficient practice of minimal access surgery will become the norm for our trainees.

South Africa is uniquely placed at the intersect of the “first and third worlds”. Unless we make minimal access surgery the preferred intervention for our patients, there will be a continued debate on the merits of open versus minimal access surgery, and the default position will always be open surgery. Minimal access surgery is part of our current surgical armamentarium and is part of the trajectory towards the Fourth Industrial Revolution that South African surgery must embrace or accept that our speciality is on a downward spiral.

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