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EDITORIAL

The colonoscopy paradigm: expectation without demonstrated competence in South African surgical training

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Colonoscopy occupies an uneasy position in South African surgical practice. General surgeons are expected to perform the procedure, yet most complete their endoscopy training without formal assessment of competence for independent practice.[1] This gap between expectation and preparation is critical and reveals a deeper misalignment between training, competence and accountability.

The problem lies partly in the mismatch between service needs and training capacity. Colonoscopy is central to general surgical practice, particularly in the private sector, where most procedures are performed by surgeons rather than gastroenterologists.[2] Given limited subspecialist capacity, expecting general surgeons to perform colonoscopy is pragmatic. Yet that expectation assumes competence, an assumption that warrants scrutiny.

Acquiring colonoscopy competence requires time and effort. Skill develops through practice, structured supervision and meaningful feedback. A caecal intubation rate (CIR) of at least 90%, confirmed by photo documentation, is widely accepted as a minimum standard of technical competence.[3] Although trainees progress at different rates, achieving this level of proficiency typically requires 200–300 procedures, even within well-resourced, closely supervised programmes.[4,5] Fewer than half reach this threshold by 200 colonoscopies, and colorectal fellows require similar volumes to gastroenterology trainees.[4,5]

Against this background, the South African experience is markedly different. Surgical trainees historically have completed training after performing on average as few as 14 colonoscopies.[6] Even allowing for improvement, the gap between required and available experience remains substantial. Colonoscopy is not a "basic skill" acquired through limited exposure; the procedure demands technical proficiency, lesion recognition, therapeutic capability and complication management, competencies that must be developed, not assumed.[4]

Why is adequate experience so difficult to obtain? Public sector tertiary hospitals, where most training occurs, face constraints in infrastructure, personnel and competing clinical priorities, leaving endoscopy services unable to meet demand.[7] Meanwhile, the private sector performs substantially more colonoscopies relative to the population served but remains largely disconnected from formal training.[2] Within tertiary centres, the training needs of subspecialty fellows further limit procedural opportunities for general surgical registrars.

The consequences extend beyond specialist training. Many South African surgeons acquire colonoscopy skills after specialist qualification through informal mentorship or self-directed learning. While some achieve a high level of competence, this pathway is unsatisfactory and inherently unpredictable, exposing patients to vagaries of a steep learning curve, and risks entrenching suboptimal practice while leaving practitioners increasingly vulnerable to medico-legal scrutiny. These limitations reinforce the need for structured training and an objective assessment of competence.

Limited exposure makes structured training and assessment even more important. Rather than relying on procedural numbers alone, training should combine clearly defined objectives, supervised experience and progressive assessment of competence, specific measurable, achievable, relevant, time-bound (SMART) objectives can translate competence into measurable targets, while direct observation of procedural skills (DOPS) provides structured teaching, feedback and assessment. Formative DOPS can guide progression during training, with summative assessment determining readiness for independent practice. In a low-volume environment, every procedure must carry educational weight.[4,5]

The current regulatory framework does not consistently support this approach. CMSA requirements for medical and surgical gastroenterology subspecialty training include documented endoscopic experience, supervision and assessment, with physician trainees required to complete at least 100 colonoscopies.[8] No comparable framework of procedural exposure, objective competency assessment or colonoscopy key performance indicators applies to general surgical training. This discrepancy raises a fundamental question: how can competence be expected when it is neither consistently taught nor objectively assessed?

Expanding training opportunities remains problematic. Existing South African initiatives within academic centres, professional bodies and emerging simulation programmes reflect genuine engagement but lack coordination and scale. Intensive, concentrated training has been shown to improve colonoscopy skills but is resource-intensive and therefore challenging to implement where services, infrastructure and staffing are already stretched.[9] More feasible approaches include protected endoscopy rotations, simulation-supported preparation and public-private training partnerships. Crucially, increased exposure must be paired with structured assessment to ensure that experience translates into competence.

Key performance indicators (KPIs)[3] are central to quality assurance in colonoscopy and should form an integral part of competency assessment and ongoing professional practice. Internationally, adenoma detection rate (ADR) is regarded as the most important quality indicator because higher detection rates are consistently associated with a lower risk of post-colonoscopy colorectal cancer. Routine measurement of ADR, however, requires reliable linkage to pathology databases and sufficient procedural volumes, limiting widespread implementation in many South African settings. In contrast, CIR, supported by mandatory photographic documentation of the appendiceal orifice, represents a pragmatic, objective and immediately measurable KPI that could be implemented nationally. While photographic confirmation of complete examination cannot substitute for high-quality mucosal inspection or ADR measurement, it provides a practical foundation for quality assurance, with ADR remaining the preferred benchmark where the necessary data infrastructure exists.

Recent South African debate has focused on the mismatch between expectations of colonoscopy competence and the capacity to provide adequate training and assessment. Thomson questioned whether colonoscopy should become an entrustable professional activity when training capacity is insufficient to achieve competence, and recommended a national assessment of training capacity and procedural volume before considering implementation.[10] Nel et al.[10] acknowledged these constraints but argued that colonoscopy should remain part of formative assessment, supported by simulation, expanded training opportunities and structured mentorship after qualification. The debate exposes the central dilemma: general surgeons will continue to perform colonoscopy, yet the current system neither provides sufficient training nor consistently demonstrates competence for independent practice.

A parallel debate has emerged around post-colonoscopy colorectal cancer (PCCRC), defined as colorectal cancer diagnosed following a colonoscopy in which no cancer was detected. Although some PCCRCs reflect biological factors, including rapidly developing interval cancers, many are attributable to lesions missed or incompletely resected at the index colonoscopy, making PCCRC the ultimate outcome measure and a key indicator of colonoscopy quality. Fourie et al.[11] highlighted concerns that PCCRC may reflect missed cancers at the original colonoscopy and deficiencies in colonoscopy performance, whereas the SAGES response emphasised the multifactorial nature of PCCRC and the importance of structured competency-based training and continuous quality monitoring.[12] These perspectives are complementary rather than contradictory. While PCCRC should not be viewed solely as a measure of individual performance, meaningful reductions in its incidence will only be achieved through systematic investment in high-quality training, objective competency assessment, and continuous monitoring of procedural KPIs. Monitoring CIR, ADR, bowel preparation quality, withdrawal time, and appropriate surveillance will drive improvements in colonoscopy quality and minimise missed lesions.

Systemic reform, however, remains essential. Training, assessment and practice must align around defined standards. This requires national evaluation of training capacity, incorporation of explicit competency metrics into regulatory frameworks and greater integration between public and private sectors. Simulation and structured post-certification mentorship may further bridge the gap.

Colonoscopy training in South Africa has reached a point where incremental adjustments are no longer sufficient. A profession cannot continue to expect competence in a procedure it does not consistently teach, assess or verify. Training must move towards structured competency assessment, while mandatory photographic documentation of caecal completion offers an immediately implementable measure of accountability in practice.

The way forward for colonoscopy in South Africa is clear. The profession already knows what is required: defined competency standards, structured assessment, objective documentation and measurable quality indicators. The remaining challenge is implementation. Competence in colonoscopy should no longer be assumed because of specialty, experience or procedural numbers. Competence should be demonstrated, measured and maintained.

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