

The development of a reflective vascular training portfolio: Using a country-specific infrastructure

J Pillai, BSc, MB BCh, FCS (SA), Cert Vascular Surgery (SA); T B Rangaka, MB BCh, MMed; C Yazicioglu, BSc, BHSc Hons; T Monareng, BDS, MB BCh, FCS (SA); M G Veller, MB BCh, FCS (SA), MMed

Division of Vascular Surgery, Department of Surgery, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa

Corresponding author: C Yazicioglu (c_yazicioglu@yahoo.com)

Reflective learning is considered an advanced form of learning; however, it has not been routinely incorporated into postgraduate and subspecialty educational surgical portfolios. The concept of training portfolios is not clearly understood by both trainees and teachers. Subspecialty surgical programmes rely heavily on logbooks and other forms of formative assessment to certify candidates. Case-based self-reflection in postgraduate training may be used as an additional educational tool and incorporated into the curricula vitae of trainees. We describe the method used to assess a vascular case, based on a self-reflective training method (vascular case portfolio).

Afr J Health Professions Educ 2016;8(1):4-5. DOI:10.7196/AJHPE.2016.v8i1.523



The gathering and interpretation of information related to teaching and mentoring is evolving. Integral are the concepts of formative and summative assessment, during and at the end of teaching programmes, respectively. Formative assessment refers to the information that is required to adjust teaching and learning during educational activities. Students and teachers may benefit from the assessment process. The concept is difficult to quantify but may involve dynamic discussions, observation and practice analysis.^[1,2]

Summative assessment meets the need for accountability standards and is performed at a particular time, usually at the end of training. It evaluates student knowledge and can be scored by comparison with a benchmark or standard. It may include a final project, a question paper or a senior recital. Summative assessment only has formative value when the summative information is evaluated by students and teachers to guide practice and training methods.^[1,2]

Training portfolios, which have been shown to improve learning, are defined as collections of trainees' experiences that demonstrate active learning (dynamic process), achievement and assessment.^[3,4] There is, however, no consensus as to the precise components of the portfolio, which usually includes aspects of formative and summative assessments.

Portfolios may include a logbook, attendance at symposia, institutional activities, peer-reviewed research and written examinations.

A self-reflective written component, based on current patient care and management, has been suggested as a means to improve learning by self-reflection, self-monitoring and self-assessment (formative assessment).^[1] Self-reflective surgical activity may lead to immediate positive adjustment of an action and promote quality life-long learning skills. Simultaneous additional objectives to this process include literature review, mentor feedback and formal documentation.^[3,5]

Ideal portfolio implementation and its incorporation into generalised programmes remain unknown. It is also unclear how specific reflective portfolios benefit teaching programmes.^[5] Little is known about the potential benefit of sharing individual trainee experiences with other trainees.^[3,4] For the concept to be successful, the trainee is encouraged to be autonomous and flexible in constructing the portfolio.

The objective of this article is to describe the format of a vascular case portfolio (VCP) programme intended for South African (SA) vascular trainees. It integrates current training, educational and certification activities with formal portfolio organisation and assessment. The following aspects are discussed: current status of fellowship education and training; vascular portfolio; VCP programme; VCP template; facilitator, faculty and mentor responsibilities; and programme assessment.

Vascular fellowship training and education

Vascular trainees may enter a 2-year fellowship programme once they have registered as a specialist general surgeon. There are eight accredited (and university affiliated) vascular surgery training units in SA. Between 8 and 10 trainees are active at any one time. National Board Certification (Colleges of Medicine of SA (CMSA)) is achieved after a minimum of 2 years. The current certification requirements are the compilation of a logbook (surgical cases), and success in the college examination: multiple-choice questions (MCQs) and viva voce.

The Vascular Society of Southern Africa (VASSA) is mandated by the CMSA to administer and prepare the examinations. VASSA organises two to three dedicated fellowship seminars a year (attended by all fellows and a teaching faculty) which consist of didactic lectures and case presentations. VASSA has recently included peer-reviewed research as an additional requirement. Fellows are encouraged to visit centres of excellence and attend accredited symposia locally and abroad.

Vascular training portfolio

The vascular training portfolio is the written summary to be submitted prior to participating in the CMSA examination:

- logbook (surgical activity over the 2 years)
- description and brief critical analysis of symposia attended and/or visits to training centres (should include benefit or criticism of activity/learning experience)
- research
- documentation related to VCPs
- other activity (trainee teaching, institutional activities, etc.) may be listed.

Vascular case portfolio programme

The objective of the VCP is to encourage trainee reflection, self-assessment and subsequent self-monitoring of specific activities. This practice-based assessment involves self-evaluation of 'real cases' by filling in a standardised template. The case assessment should be a dynamic assessment of a case of the trainee's choice. The case portfolio should allow for flexibility and include a trainee's experiences (e.g. competency, novel concept, complication). Once the VCP document is completed, it will be forwarded to a facilitator who will 'blind' the document and attach a reference number. The facilitator will then forward the document to an external mentor who will complete the VCP documentation by appropriate feedback and commentary. The facilitator will ensure 'mentor blinding' and return the VCP documentation to the trainee within 7 - 10 days. Timely feedback facilitates appropriate trainee adjustment in subsequent practice. Copies of VCP documents will be retained by the facilitator. A completed 'blinded' document will be forwarded to a fellowship seminar faculty member (other than the mentor), who will present the document as a case report at a fellowship seminar (all fellows present). The faculty member will receive the VCP document at least 2 weeks prior to the fellowship seminar. Further VCP evaluation and sharing of similar trainee experiences will be encouraged at the seminar.

The VCP logistic will be explained to fellows, mentors, faculty members and facilitators prior to programme initiation. This will comprise a pre-programme fellowship meeting and subsequent written communication.

Vascular case portfolio template

The discussion and learning experience should be autonomous, self-reflective and thought provoking. It may include positive, negative (complications) and novel experiences. The level of evidence and relevant papers should be discussed. Mentor feedback should highlight specific learning issues and improvement (Table 1).

Facilitator, faculty and mentor responsibilities

The facilitator is essentially 'task master' who ensures trainee compliance (three VCPs per year). The facilitator may stipulate prespecific target dates for each trainee and correlate this with fellowship seminars (anticipate four to six VCP discussions per seminar). Appropriate telephonic and mail reminders are essential. The facilitator will compile a list of volunteer mentors and may allocate VCPs to mentors with specific interests. Ideally, the facilitator should be a member of the executive committee of VASSA. The facilitator will keep records of all VCPs submitted and will be responsible for mentor/trainee blinding and substitution with reference numbers. Records may be submitted to VASSA Exco for future analysis of the programme. Prior to fellowship symposia, the facilitator will submit appropriate VCPs to faculty members for formal case presentation at the seminar. The VCP topic will be part of the seminar programme. The seminar faculty will present the VCP case and stimulate further discussion among fellows and all attendees. Two faculty members will be tasked with assessing the quality of the VCP in a standardised format:

- concise presentation of case
- specific learning issue identified
- evidence used to substantiate argument
- demonstrate reflection with understanding of topic.

Standardised mentor feedback will include gaps in knowledge, existing knowledge, level of understanding, potential existing errors, specific suggestion on improvements and correlation with evidence.

Table 1. Vascular case portfolio template

Fellow details
Year of training
Date
Title of case
Diagnostic studies
Medical management
Intervention
Evidence/literature (list papers)
Mentor feedback

Each point will carry a 1 - 5 grading. The VCP quality grading analysis will be submitted to the facilitator for record keeping (Excel format). Two sets of VCP MCQs (for each VCP) will be constructed as a separate faculty task and submitted to the examination convenor. A separate VCP MCQ bank will be developed with a date allocation to each MCQ.

Vascular case portfolio programme assessment

Various aspects of the programme will be assessed at different stages. Compliance (number of VCPs submitted per year) and subjective trainee satisfaction will be documented by the facilitator. VCP quality will be assessed during fellowship seminars. An independent assessment of VCP MCQs will be undertaken after each examination (compared with non-VCP MCQs). Other assessments, such as overall candidate examination success v. rate/quality of VCP submissions, may be undertaken. Incremental data collection will ensure continuous programme evaluation.

Conclusion

While there is no consensus regarding an optimal fellowship curriculum vitae, the total vascular training portfolio will provide direction and standardisation of educational activity. Self-reflective activities (VCP programme) may encourage 'special interest' development and motivate fellows towards specific research initiatives. Merging an existing established educational and examination programme with a VCP programme allows for easy implementation. Similar portfolio development programmes may also benefit other subspecialist trainees (e.g. gastrointestinal tract, trauma). If undertaken by various societies, future analysis of more robust multidisciplinary portfolios will provide invaluable educational information.

References

1. Boston C. The concept of formative assessment. *Practical Assessment, Research and Evaluation* 2002;8(9):1-8. <http://PAREonline.net/getvn.asp?v=8&n=9> (accessed 31 December 2012).
2. Carnegie Mellon University. Formative and Summative Assessment. <http://www.cmu.edu/teaching/assessment/basics/formative-summative.htm> (accessed 31 December 2012).
3. Hassan S. Use of structured portfolio in surgical training of postgraduate medical education. *Educ Med J* 2011;3(2):32-43. [<http://dx.doi.org/10.5959/eimj.v3i2.63>]
4. Webb TP, Merkle TR. An evaluation of the success of a surgical resident learning portfolio. *J Surg Educ* 2012;69(1):1-7. [<http://dx.doi.org/10.1016/j.jsurg.2011.06.008>]
5. Buckley S, Coleman J, Davison I, et al. The educational effects of portfolios on undergraduate student learning: A Best Evidence Medical Education (BEME) systematic review. *BEME Guide No. 11. Med Teach* 2009;31(4):282-298. [<http://dx.doi.org/10.1080/01421590902889897>]