



## Bone & Joint Open

**James HK, Gregory RJH.** The dawn of a new competency-based training era: a 70-year perspective on post-graduate training reform in trauma and orthopaedic surgery. *Bone Jt Open*. 2021;2(3):181–190.

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A critical evaluation: initial observations by those who were there

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*Sir,*

We were dismayed to read this deeply flawed account.<sup>1</sup> We are concerned that if the numerous inaccuracies, omissions, and misinterpretations in this article are left unchallenged, an entirely false impression of the development of trauma and orthopaedics (T&O), and the manner in which we have educated generations of surgeons over the last few decades, will have been created. There are only a few of us remaining who were trained in the 1970s and 1980s and contributed to the major changes that followed. It is essential that we dispel the erroneous impression that has been created by this paper before it causes damage to the trainees and others who will lead the orthopaedic developments of the future.

This paper presses the advantages of the 2021 T&O curriculum and the recently developed instruments of assessment. What it fails to reflect on is that the assessment of fitness to practise has developed over at least the last 50 years. Much progress has been made on the basis of well-founded observations over an extended period of time by well-informed observers. Seen in this context, recent developments stand on the shoulders of the hundreds of previous innovators and represent an incremental change rather than the “new dawn” the authors claim.

This evaluation merely scratches the surface of the many erroneous viewpoints within, and the extensive inadequacies of this paper. There is much more to be said and considered. A more extensive critique or a more accurate historical reflection on these periods of major progress in T&O will be needed in the future.

### **Practice and structure of the specialty in the “Halsteadian era”**

The concept that the operations of yesteryear were crude and not particularly specialized does not stand scrutiny. During the 1960s, 1970s, and 1980s, technical advances and developments in practice radically altered the management, outlook, and time spent in hospital for the injured, as well as for those with degenerative musculoskeletal conditions and conditions of childhood.

These developments included:

- Widespread use of internal and external fixation procedures, as well as locked intramedullary nails with early mobilization, radically altered time in hospital, and outcomes<sup>2,3</sup>
- Widespread improvement in children's problems such as Perthes' disease and management of scoliosis reduced prolonged hospitalization and improved outcomes<sup>2,3</sup>
- Day-case surgery expanded on a larger scale<sup>4,5</sup>
- Hand and spinal surgery developed as separate subspecialties<sup>2,3</sup>
- The beginning of arthroscopic surgery which rapidly evolved<sup>2,3</sup>
- Arthroplasty development<sup>2,3</sup>

While hip arthroplasty was well-established during this period, modern condylar knee arthroplasty became widespread, as well as effective shoulder and elbow arthroplasty, and the surgical management of the rheumatoid hand

- The development of limb-sparing surgery for bone sarcoma and specialized bone tumour centres<sup>2,3</sup>

The principal obstruction to consultant expansion was the reluctance of health authorities to approve new posts and the huge difficulties encountered when arguing for them. The private practice allusion as a general principle is simply untrue.<sup>6</sup>

### **Education of trauma and orthopaedic surgeons in the "Halsteadian era"**

Although the recent evolution of surgical training has largely revolved around external regulatory pressures, much of the period up until 2005 was marked by initiatives of the British Orthopaedic Association (BOA), Specialty Advisory Committees (SACs), and the Royal Colleges to deliver high-quality training and education. The notion that training was "unplanned, unsystematic and unsupported" is simply not the case.

Modern orthopaedic training started in the 1970s with the development of accreditation.

From the mid- 1970s, orthopaedics was the first surgical specialty to develop formal rotations, initially of senior registrars and latterly of registrars (pre-Calman). Training units were inspected by the SAC on a quinquennial basis.

Compulsory educational meetings took place on a weekly basis which covered the breadth of the specialty, including clinical assessment that tested the competence of the trainees to examine particular joints or systems. These sessions were wide-ranging and included seminars to give trainees insight into NHS management issues. In addition, there were specialized courses, for example in hand surgery, children's orthopaedics, and trauma.

A dedicated half-day for research purposes was required for a programme to be accredited.

Before 1993, most programmes undertook annual assessments of their trainees. These were usually undertaken by the Training Programme Director (TPD) and at least one other (often involving the postgraduate Dean as well). There was a report from each of the trainers present on a Joint Committee on Higher Surgical Training (JCHST) form and the trainee's logbook was examined. Progress in clinical knowledge, skills, and research were discussed. The trainee also reported to the TPD on a confidential green or yellow form about their placement. These forms were the forerunner of the Multiple Consultant Report and suffered from similar drawbacks.

The FRCS Ed (Orth) qualification was developed by the Edinburgh College and led on to the Intercollegiate FRCS (1990). Passing this exam became compulsory in 1992.

### **Education of trauma and orthopaedic surgeons in the Calman era**

One of the most important consequences of the Calman reforms (not mentioned in the paper) was to include *all* T&O registrar posts in the deanery's specialty rotation. This included posts previously regarded as service posts and, in general, filled by overseas graduates. The consequence of this was to more than treble the number of T&O trainees and *also* the number of training places required in every deanery. Career and visiting registrar posts were also created. The posts and trainees became the responsibility of the Training Programme Director, providing huge logistical and educational challenges and the subsequent spur for the BOA and SAC to develop strategies to enhance the educational format of all posts.

In 1995, the SAC identified a number of major issues with training, especially with regard to the management of trauma. This report led to a number of early retirements and the drive towards dedicated and supervised trauma lists which subsequently have become the norm.<sup>6</sup>

### **Education of trauma and orthopaedic surgeons post-Calman leading on to 2007**

The examples below, although highly relevant to the title and content of this article, *are neither referred to nor cited*. The article airbrushes out all of the work done from the mid-1990s to 2007 and beyond, and fails to mention at all the massive contributions of T&O to the development of numerous tools and processes for robust training and competence assessment, not only in orthopaedics but in all surgical specialties:

#### **A) *The Competency Assessment Working Party (CAWP)***

This was set up by the Presidents of the four Royal Surgical Colleges. Conclusions were published in "Surgical Competence. Challenges of assessment in training" (1999).<sup>7</sup>

The Full report of the Working Party (2002)<sup>8</sup> can be found at:

[https://www.academia.edu/51058825/Competence\\_Working\\_Party\\_Report\\_for\\_JCHST](https://www.academia.edu/51058825/Competence_Working_Party_Report_for_JCHST)

"A Working Party was established in 1997 by the Joint Committee of Higher Surgical Training to explore whether the assessment of competence in Higher Surgical Training could be made more objective and less dependent on time and experience. In addition to an international stakeholders' conference, the Working Party sought advice from organisations and individuals both within and without surgery. These included ongoing members from industry and the armed forces with experience of assessing competence, and presentations from invited experts including British Airways Pilot Training. Including the conference, the Working Party met on twelve occasions. The Working Party explored a range of issues including definitions of competence, development of curricula to deliver competence, and tools designed to meet the criteria of curricular delivery and assessment.

In broad terms, the Working Party concluded that it was possible to define an outcome of Higher Surgical Training in terms of an individual capable of practising as part of a multi-disciplinary team within a modern National Health Service. This individual should be competent to practice in that context in a District General Hospital dealing with the vast majority of emergencies within their SAC defined specialty and would perform a range of elective procedures under similar terms."

The CAWP was arguably the most important development of this period. It laid the foundation for numerous innovations including workplace assessments,<sup>9</sup> highlighted in the conference

proceedings,<sup>7</sup> and the syllabus that is contained in the 2021 curriculum.

## B) **BOA Syllabus**

Concurrently, the Education Committee of the BOA, together with the T&O SAC, undertook, for the first time, to describe within a BOA “blue book” knowledge that should be acquired during higher surgical training (HST) and that might form the basis for the FRCS (Orth) exam. A “Guide to Higher Surgical Training Programmes in T+O Surgery” was published in November 1999.<sup>10</sup> Arising from the success of this work, the SAC and BOA Education Committee set about developing a range of training tools and practices to enhance HST.

## C) **E-Logbook**

Beginning in 2000, an electronic logbook was developed, ultimately hosted by The Royal College of Surgeons of Edinburgh (RCSEd). This project was generously funded by The British Editorial Society of Bone & Joint Surgery, among others. The E-Logbook became mandatory for all trainees in 2003 (a tool which evaluated surgical experience as well as evolving ability or competence). This logbook, which has a multiplicity of functions, is now the largest surgical E-Logbook in the world. The data have fuelled numerous publications.<sup>11,12</sup>

## D) **Orthopaedic Competence Assessment Project (OCAP)**

The OCAP steering group was formed following the end of the CAWP to take the CAWP recommendations forward. Orthopaedics once again took the lead in this area. From 2001/2002, the work of the CAWP became subsumed into OCAP and a portfolio of workplace tools to aid trainee/trainer dialogue was developed, including a “trainer profile” and, based on the syllabus in the “Guide”, a tool to develop a learning agreement. Acting on the early work of the CAWP, a tool for feedback and assessment of operative competence, the Procedure Based Assessment (PBA), was developed (subsequently adopted by all surgical specialties in the UK and used as a model by many overseas). This was the first ever holistic attempt to provide a reliable, user-friendly assessment of surgical competence in the operating environment. The PBA exceeded the boundaries of many tools developed since which merely offer observations of performance. A large number of subsequent publications reflect the uses and constraints of the PBA.<sup>13-15</sup> None of these is cited or referenced in the paper.

In 2005, in a single edition, *JBS Br* celebrated this collection of innovative work with an editorial ‘Head, hand and heart: measuring our abilities’,<sup>16</sup> an annotation ‘Influencing the national training agenda: the UK & Ireland Orthopaedic eLogbook’,<sup>11</sup> and ‘Assessment of performance in orthopaedic training’.<sup>13</sup>

These developments facilitated T&O’s submission in 2006 and 2007 of “A competency based curriculum for specialist training in trauma and orthopaedics”.<sup>17,18</sup> This curriculum was the first complete surgical curriculum to be published anywhere in the world. It was described by the Postgraduate Medical Education and Training Board (PMETB) as setting the gold standard for such work. Trainees should be aware that there was *no support* of any kind for the production of this important document from either the Department of Health or the Royal Colleges of Surgeons. Printing and distribution costs were provided by private industry. The OCAP was underway before the Intercollegiate Surgical Curriculum Programme (ISCP) (which began as a project, not the “programme” that it has become). It would be reasonable to suggest that there was considerable resistance from the ISCP to this

project throughout the period of development. In 2007, all trainees received a hard copy of the T&O curriculum. All trainers and trainees received a soft copy on CD of the curriculum itself, a series of PowerPoint guides<sup>19-22</sup> as to how the curriculum and the logbook worked, and relevant files to run certain aspects of the curriculum on a handheld device (several years before the advent of the smart phone).

Since then, there have been five further competency-based curricula approved by the General Medical Council (GMC)/PMETB, developed by practising T&O surgeons. All are available on the GMC website,<sup>23</sup> some available on the ISCP website;<sup>24</sup> *none of these documents or the innovations they describe have been referenced in this article.*

#### E) **Further BOA publications**

Aside from the attempts to improve training for HST work undertaken by the Academic Board of Orthopaedic Surgery of the BOA in response to “Unfinished Business”,<sup>25</sup> and “Modernising Medical Careers”,<sup>26</sup> two BOA blue books were published: “Education and Training For PRHOs” (July 2003);<sup>27</sup> and “Introducing the Foundation Years: Advice for Departments of Trauma and Orthopaedic Surgery” (October 2004).<sup>28</sup> These publications, addressing the poor educational content for the most junior of doctors passing through our T&O departments, set a template for a structured and educational attachment with the aim of improving knowledge and orthopaedic competence for many doctors who would ultimately become General Practitioners.

### **Conclusion**

The paper paints a picture of generations fraught with difficulty and unmet challenges resulting in a structure about to collapse without the “new dawn” of the 2021 curriculum and its assessment regimen. This is far from a true picture. The wealth of information above straddling several decades clearly demonstrates the innovation and energy of the T&O community to train and accredit competent independent surgeons. Sadly, much of this has been omitted from this “70-year perspective” or described inaccurately.

All of these proposed new instruments, developed for implementation, need to satisfy the test of time, ease of application, validity, and reliability. During the development of the OCAP portfolio and 2007 curriculum, data were gathered from several hundred trainees and trainers for analysis. It was overwhelmingly welcomed as a “good idea” by respondents.<sup>29</sup> Its abandonment in favour of ISCP in 2011 has been questioned ever since.<sup>6</sup>

In his editorial,<sup>16</sup> David Jones concluded with a statement as valid today as it was 16 years ago:

*“In order to succeed, it first has to show it is practicable, in particular with trainers who are already overburdened with paperwork and protocols. Secondly, it must prove the ‘OCAP’ surgeon is as good as the ‘apprentice’ type. Thirdly, it must be able withstand legal challenge. Fourthly, it must be workable within the surgical curriculum. Finally, it must include some measurement of ‘heart’, that part of a young surgeon’s character which fights for high professional standards, makes sacrifices in the interests of patients, encourages and co-operates with others and still has time to enjoy life outside orthopaedics.”*

James and Gregory’s opening claim that: “This paper summarizes the history of T&O training reform, explains the rationale for change, and reflects on lessons learnt from the past” must be reconsidered in the light of the evidence outlined above. Perhaps the quotation from Margaret MacMillan, “We can learn from history, but we can also deceive ourselves when we selectively take evidence from the past to justify what we have already made up our minds to do” might be considered apt, as is the

famous quote from George Santayana, "Those who cannot remember the past are condemned to repeat it."

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