Teachers

Learning in the surgical workplace: necessity not luxury

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SUMMARY

Background: Surgical teaching and training has a long tradition of apprenticeship-style mentoring, which has been widely revered and respected. The teaching style and learning was feared by some, but appreciated by all. The basis of this teaching was a strong relationship between teacher and trainee that was formed over many years of close working. However, modern legislation in the form of the European Working Time Directive (EWTD) has made this relationship difficult to achieve. Shifting working patterns have broken the continuity. We need to find new ways to learn the art of surgery and to maximise the limited time that is available on the 'shop floor'.

Context: The surgical standard working day is analysed in this article to highlight opportunities for learning, and how to exploit them. Every clinical encounter can be used for educational purposes.

Innovations: Novel approaches to ward rounds are discussed, together with modifications to intraoperative training. These make teaching an active process, with the learner taking control and self-directing the process.

Implications: The EWTD need not be a disaster for surgical training. We need to rationalise and re-think our approaches, but surgical training should not be seriously detrimented by the reduction in hours. Two hours of focused surgical training is worth more than 8 hours of chaotic, random educational encounters, characteristic of previous systems.

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INTRODUCTION

There are many pressures on the modern day junior doctor, most of which are accepted and welcomed as part of the vocational lifestyle. However, the widespread reduction in working hours has exerted additional, unwelcome stresses.[1] These have far-reaching consequences not only in terms of professional and personal development, but also in terms of psychological and physical well-being.[2]

One clear message has come out of these changes: namely that the junior doctor must take ownership of their training, and be responsible for their own development. The days of being 'spoon fed' are over. It is clear that there needs to be a paradigm shift in junior doctors' perception of training. Self-directed 'adult' learning and educational motivation are now key.

BACKGROUND

The pedagogic, 'spoon-feeding' approach to learning, which so many medical students are used to, simply will not work in the hospital environment. The environment is too hectic and frenetic, and the active training of juniors is often a secondary priority to service provision. Those who expect learning to be delivered to them all nicely packaged-up are sadly misguided. The utopian vision of an enthusiastic trainer with ample time set aside for teaching, and a receptive learner keen to develop new skills and thoughts, is not always the reality, however, and doctors must be realistic about teaching in this environment.

Features that are key to learning include self-direction and reflection.[3,4] Self-direction requires the learner to be motivated, inquisitive, collaborative, analytical and enthusiastic. The learner needs to be thirsty for knowledge and prepared to put in extra work outside the constraints of the job to realise their goals: for example, attending a specialist theatre on a scheduled day off.

Reflection is the synthesis of experience and knowledge, and refining existing practices to improve outcomes. Reflection is often an individual process. However, there is a team dynamic within the hospital, with a complex interplay between various members of that team and the learning resources (patients, charts, scans, etc.); therefore, reflection also needs to happen at a team level. An example of this would be a team debrief after a resuscitation scenario. The feedback from the nurses, doctors and ancillary staff could highlight areas for improvement that would be overlooked by relying on just the doctor's own reflection.

OPPORTUNITIES FOR LEARNING

The standard day on a surgical firm provides many opportunities for learning, most of which are overlooked. It is important to recognise that all junior doctors have different ways of learning and have different learning styles. They come from similar backgrounds (i.e. school education followed by university), but are all educationally individual. Some may be cognitivists who love to learn facts, whereas others may be humanists who thrive on solving problems and reflecting. Understanding the entry behaviour of the learners is fundamental to ensuring that all benefit from these learning opportunities.

Ward round

This is a veritable oasis of opportunity. The morning ward round is often dismissed as a 'purely business' affair, with little educational value. This is an opportunity to see patients through their surgical journey from preoperative investigations right through to postoperative management. Traditionally, the most senior member of the firm (often the registrar) leads the ward round, and the most junior doctor is reduced to the role of merely scribe and runner. This is a missed opportunity. An alternative is to divide the ward round into two halves. For the first half, the registrar should lead. All personnel on the ward round should be made aware of the background and history of each patient. The patient will then be examined and management needs discussed. The novel opportunity comes in the second half of the ward round. The reins of responsibility should be handed over to the most junior member of the team to lead the round under senior supervision. This provides a safe environment

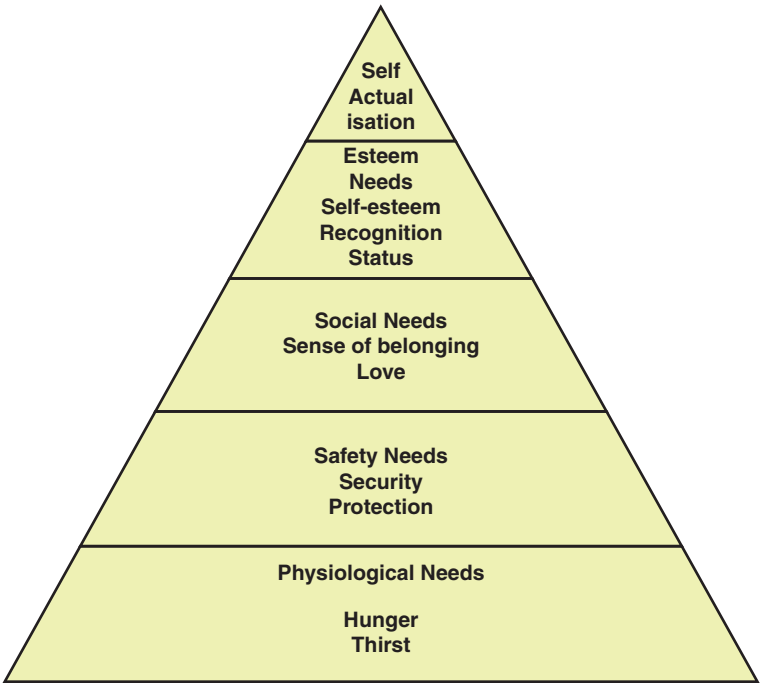

Figure 1. Maslow's hierarchy of needs (taken from http://www.tutor2u.net/business/images/maslow_hierarchy.gif)

in which they can make mistakes that will not adversely affect patient outcomes. It allows for feedback on performances, and provides constructive criticism. The juniors enjoy this opportunity, and it enhances mentoring of progress whilst they are on the firm. Other members of the ward round (nurses, dieticians, physiotherapists, etc.) contribute their thoughts at the end of the round to consolidate the learning experience.

Operating theatre

This is perhaps the best learning resource for the budding surgeon. The operating theatre can be a challenging place to teach and to learn, especially for junior surgeons, as it can be noisy, unpredictable, hot and potentially stressful. Maslow described a hierarchical model (Figure 1) in which the physical, emotional and psychological needs of the learner need to be met before effective learning can take place.[5] The operating theatre environment is resitant to virtually every level of this hierarchy: the physical environment is hot, the operations are long, the surgeon may be abrupt because of concentration and stress, and the new doctor may not feel immediately welcome. To make this a valuable learning resource these negative factors need to addressed.

The first step is to give the junior doctor a role that is clearly defined so that they gain self-esteem, rather than merely acting as an observer. To learn surgery one must be scrubbed and at the table assisting in the operation, rather than acting as a passive observer in the theatre. This affords the opportunity to take an active part in the learning experience.

Trust is essential in the learning environment. Surgical juniors need to feel safe to be scrutinised while learning new skills, otherwise they will attempt to hide their incompetence or will avoid attempting to learn altogether.[6] This can be circumvented by arranging a meeting between learner and trainer before the case. This may be anything from a formal interview to a simple greeting in the coffee room, but it allows for a two-way interaction that reassures the trainer that the learner is committed and enthusiastic, and serves to reassure the learner that the trainer is approachable and willing to teach. An extension of this is to develop a learning needs analysis and produce a learning contract. This is not a static, one-off document, but rather a fluid, dynamic, constantly evolving process reliant on trainee–trainer two-way feedback.[7] This means that the learner's needs are constantly addressed, rather than being served by a somewhat random, passive process.

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A comprehensive orientation of the theatre complex should also be offered prior to the first case, so that there is familiarity with the environment. This will settle the learner and diminish anxiety. Allaying fears and emotional stress are fundamental components of Maslow's model, and are essential for effective learning.

Regular attendance and enthusiasm should be rewarded by more active participation in the operations. Often there are several juniors competing for a place at the table, and this competition can be embraced by having certain parts of the operation assigned to certain juniors. For example, a hernia repair can be broken down into three components: exposure, hernia isolation and repair, and each of these could be given to a different junior under the close supervision of a surgeon. The juniors can then be rotated so that they cover all components of the operation.

Out-patient clinic

The out-patient clinic provides a useful learning environment. Often there are a number of rooms, and so the patient can be seen first by the junior doctor. Areas of deficit in knowledge are quickly identified, and these can be highlighted for discussion with the trainer between cases. The

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learner can then revisit the patient with the trainer, and identify features that went well and those that require development. The junior doctor does not necessarily need to stick to speciality. If there is no service commitment to uphold, then it is possible to take advantage of all the speciality clinics that are available. This necessitates preclinic planning and coordination with consultants. It is advisable to seek permission to attend in advance, rather than turn up unannounced.

Multidisciplinary meeting (MDT)

At this meeting there are experts from a range of disciplines in one space at one time. The surgical junior must tap into this rich resource. This is not usually an opportunity for didactic teaching, but by observation and assimilation much can be gained. The junior doctor will need to go away and read around what they have learned to consolidate this experience. Attending with a colleague is a good idea so that a discussion can occur immediately after the meeting about what has been talked about, and what there is to gain. Frequently there are burning questions that arise but cannot be addressed within the meeting because of its functional, business-like nature. These can be raised with the colleague immediately afterwards and discussed. If there is a time lag between meeting and post-meeting discussion, then important points will almost certainly be overlooked. Taking a notebook and pen is essential for the MDT.

CONCLUSION

Learning is fundamental to career progression. All too often there is an apparent conflict between service provision and training. Embracing the training opportunities within the service is key. Learning whilst working will improve job satisfaction and, ultimately, will improve patient care.

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