Published online: 2019-08-26

Reflections

Changing trends in plastic surgery training

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ABSTRACT

Background: The currently available training models are being put to scrutiny in India today, both by the residents and the teachers. Plastic surgery specialty was created primarily for reconstructive purposes but the society always perceived it from a cosmetic angle, particularly in the post second world war era. As a result, there is a need to redefine the goals of plastic surgery training in the present times so that the plastic surgeon is "future ready" to meet the needs of society and the market forces. **Materials and Methods:** The author has reviewed the currently available literature on plastic surgery training from India and the western countries. An attempt has been made to study opinions from the teachers and the trainees. The modules currently available in India and abroad have been analyzed and a suggestion has been made for drafting training programs that would meet the demands of the society as well as prepare the resident both for the aesthetic and reconstructive practice. **Conclusions:** The plastic surgery training needs to be more vibrant and in tune with the changing times. While maintaining its core nature, the current predominantly reconstructive modules need to incorporate the aesthetic content. The evaluation should be both knowledge and competence based. The teachers need to be educated in the various teaching methods that are more applicable to grown up residents. There is a need to find ways to attract talented people in the academic plastic surgery.

KEY WORDS

Course duration; evaluation; plastic surgery; reconstructive and aesthetic content; training

INTRODUCTION

Plastic surgery is one of the newer surgical subspecialty that has come up to find solutions to the difficult surgical conditions and has been perceived as a "problem solving specialty". It was primarily meant to be reconstructive in nature with a goal to correct the "abnormal" to "normal".[1] The recent growing demand for cosmetic surgery has fuelled the need for incorporating the aesthetic component into the training of the residents.

Access this article online	
Quick Response Code:	Website: www.ijps.org
	DOI: 10.4103/0970-0358.138934

Surgery does not merely mean ability to perform operations but also sound knowledge and discretionary judgment.[2] The plastic surgery can be interpreted as a "discipline" or "technique" depending upon the formal training of the practioner,[3] but "one must learn the trade rather than the tricks of the trade". Therefore it is important that the training should be of the highest quality and that it should make the residents "future ready." An interesting study on the necessary role and optimization of plastic surgery residencies by Wanzel and Fish[4] concluded that two-thirds of the training should

be conducted in tertiary care centers and remaining time be spent in smaller community centers and private clinics. Murray reflected the need to constantly improve for ensuring our continuing existence.[5] We must also be in tune with the breadth and scope of clinical practice and incorporate the necessary changes in the training programs.[6]

MATERIALS AND METHODS

The author has reviewed the currently available literature on plastic surgery training from India and the western countries. An attempt has been made to study opinions from the teachers and the trainees. The modules currently available in India and abroad have been analyzed and a suggestion has been made for drafting training programs that would meet the demands of the society as well as prepare the resident both for the aesthetic and reconstructive practice.

Evolution of plastic surgery training

The training model of plastic surgery has evolved from the preceptorship and apprenticeship model in the earlier years to the more elaborate structured curriculum of today.[7-9] Plastic surgery is probably the only surgical specialty that encompasses many elements of otolaryngology, orthopedics, ophthalmology, urology, and neurosurgery, cardiovascular, thoracic, and general surgery. In India, majority of the centers offer training in plastic surgery after the candidate has completed 3 years comprehensive training in general surgery. Some centers also accept candidates who have qualified from the orthopedic and otolaryngology streams.[10] The National Board of Examinations also offers a 6 years integrated course after completion of graduation (MBBS). The merits and demerits of these two channels of training have been a hotly debated issue for long in the USA.[11-16] The supporters of an integrated approach feel that it allows residents to start learning the plastic surgery at an earlier time than the traditional comprehensive model. In India, however the programs offer the traditional comprehensive model of 3 years of plastic surgery training after completion of an independent 3 years training in general surgery. The author personally favors an integrated model in which the program director should be in charge of the training in general surgery and allied specialties. However this may take a long time to take shape as we need to take up the matter with the Medical Council of India.

An interesting study by Khare *et al*. based on questionnaires revealed that current training programs in India are perceived differently by the teachers and the residents.[17] The teachers were happy with the training being imparted to the residents, but the residents felt otherwise. The authors have suggested a need for a "re-look" at the currently followed practices for imparting training.

Reconstructive or aesthetic training

We must realize that the goal of residency training is not only to educate about the current level of practice but also to anticipate the future role of the specialty. In the beginning the plastic surgeons mainly concentrated on the reconstructive aspect and the cosmetic surgery training was under-represented. The aesthetic surgery was considered as "vanity surgery". However the aesthetic component has become equally important in the present times.[18] The author feels that about 15 years ago aesthetic surgery was a relatively smaller component of a plastic and reconstructive surgeon's practice, whereas currently it has assumed a significantly greater role. It is quite possible that this equation may still change in future with reconstructive aspect becoming more influential again.

The author has observed that the residents do not feel very confident about the cosmetic surgery procedures upon completion of the training period. The main reason is that the most of the training centers in the teaching hospitals do not perform the common aesthetic surgery procedures. Even if some place may offer a glimpse of such procedures, it would be difficult to have hands-on training. Many innovative ways have been suggested to provide exposure to these procedures during training of the residents.[19-22] The residents in India have expressed the need for a change in the plastic surgery curriculum. The main demand is adequate exposure to both the core areas of reconstructive plastic surgery and the cosmetic procedures.[23]

Method of training

In the author's opinion the training should be in a graded manner so that residents are able to acquire skills expected of them at particular stage of residency period. This would also ensure that no aspect of the curriculum is missed. It is quite possible that all the centers imparting plastic surgery training may not be well equipped to provide exposure to all the core areas. If the particular aspect of the training is not available, the resident could be sent to an outside center on rotation for a few weeks

to months. For example the residents could spend some time in a center that manages burns if the training unit does not treat burn patients. Likewise residents could be rotated to other centers for exposure to maxillofacial trauma, craniofacial surgery or microsurgery. This will help plug the gaps in the training.

Attracting the best residents

It is desirable to attract good candidates for training in plastic surgery. This would require that we educate the medical students about the scope of plastic surgery in their formative years so that they can make up their mind by the time they finish their MBBS course. It may also be worthwhile to have special lectures on plastic surgery in the undergraduate curriculum.[24] It is very important for a specialty as vast as ours to let people know as to what this specialty stands for. The plastic surgery specialty, unfortunately cannot be identified with a particular region of the body like neurosurgery, cardiothoracic surgery urology etc. There is a need to educate the society at large about the scope of the plastic surgery and its reconstructive and aesthetic aspects. This shall also help the society to understand as to who is the right surgeon for their reconstructive and aesthetic requirements.

Guidelines for training

Rohrich in an editorial has suggested that the plastic surgery training is based on many arenas.[11] These include a structured curriculum, mentorship provided by talented faculty, demonstration of operative procedures and indoctrination of a relevant clinical and basic research. The curriculum should be comprehensive and uniform all over the country. A step in this direction was taken by the Medical Council of India for formulating 3 years curriculum and now the core training syllabus is same all over the land. The National Board of Education has also drawn up curriculum for 3 years traditional comprehensive and another 6 years' integrated training module. The curriculum should place reasonable emphasis on techniques in cosmetic surgery. These aesthetic and reconstructive aspects of plastic surgery are two sides of the same coin and are inseparable. It may not be possible to provide adequate exposure to cosmetic surgery in the University/Medical College set up in majority of situations. It must be made compulsory that some basic aesthetic procedures are conducted in the training hospitals. It might be worthwhile mandating rotation through private hospital having busy cosmetic surgery practice. Many models are available that can be followed towards this end.[19-21] There has been explosion in all fields of plastic surgery especially in hand, trauma, craniofacial surgery, microsurgery, minimal invasive surgery and nonsurgical procedures such as Botox, and fillers for use in cosmetic surgery. Ideally all these facilities should be available in the training department. If it is not so, the residents should be encouraged to seek externship at other places during their training period.

An adequate emphasis has to be placed on conducting research during the training period. It must be incumbent upon the mentors to provide a milieu that encourages original thinking. There are problems specific to India about which the lead has to be taken by us only and we should not be looking at the west for solutions. These include cheaper alternatives for wound management, use of cheaper technologies for helping even the poorer strata of the people. We are a different people than the west and we have to learn to find solutions for our type of problems. One example is innovative use of wall suction for wound care.[25]

Teaching the teachers

The teachers themselves need to be taught how to be a good teachers.[26] They have to be exposed the methodology of adult education. It is important to recognize the residents as both students and adults, not as apprentices or passive and dependent learners. The optimal learning can be accomplished through the process of active inquiry and dialogue between the teacher and the students. The teaching has to be conducted in the principles of problem- and experience-orientation. The teaching environment has to be supportive and based upon constructive feedback. The trainers and the trainees who would be teachers of the future need to learn teaching skills of adult education. These aspects should be taught in the curriculum.[26-28] There was an interesting session in the annual Conference of the Association of Plastic Surgeons of India in 2013 on the interaction between the teachers and taught. The discussions emphasized the need for a dialogue between the two in order to bridge the gap between the "desirable" and "available" in the teaching curriculum. The students should feel free to interact with their trainers and clarify any doubts or seek guidance for their problems. We have to teach our residents the logical way of managing a given scenario. This "Socratic" method of education will help them a long way in their future tryst with the problems.[29]

Evaluation of the candidates

The current methods of examination and evaluation of the residents in India may not be ideal as these primarily

test the theoretical knowledge of the candidate. We need to re-look at the evaluation procedures. The evaluation of training should be both competence and knowledge based. The ideal curriculum should provide exposure to core principles of plastic surgery while demonstrating competence through performance of index procedures that are most likely to benefit graduating residents.[27] Currently the candidates appear for their final evaluation at the end of 3 years of training. Some centers like PGIMER, Chandigarh conduct these final exams after 2½ years. This allows the candidates to spend the last 6 months of their training period in a more relaxed manner and they are able to learn in a tension free atmosphere. The feedback from the residents has been overwhelmingly in favor of this arrangement and has invariably been described as the "best part of their training".

Attracting more people to academic plastic surgery

We have also to realize that teaching is a serious business which does not necessarily result in "lots of money". Many good teachers leave the academic institutions for better pastures.[30] If the plastic surgery training needs to be strengthened, the teachers have to be paid handsomely.[31,32]

CONCLUSIONS

The plastic surgery training in the modern era needs to address the changing needs of the society and therefore the curriculum must be altered accordingly. The aesthetic component which hitherto was under represented needs to be given its due importance. The residents may be rotated to different centers for getting exposure to the core principles of plastic surgery. The residents may be sent to well established private clinics for cosmetic surgery training. There is a need to educate the teachers about methods in adult education as these topics are never taught in during the medical career. We need to educate the public and our medical colleagues about the scope and reach of plastic surgery. Efforts must be made to attract the best talent to our specialty, and introduction of plastic surgery in the undergraduate curriculum would help a long way in achieving this objective.

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How to cite this article: Sharma RK. Changing trends in plastic surgery training. Indian J Plast Surg 2014;47:162-6.

Source of Support: Nil, **Conflict of Interest:** None declared.