

Mentoring in Medical Education

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doi:10.1029/WFSA-D-21-00009

Abstract

Mentorship focuses on career and psychosocial support in a relationship where a mentor and mentee work together using open discussion, reflection, problem-solving, and testing of new ideas. Benefits include development and growth of confidence in non-technical skills, for example leadership, teamwork and leading change, support with career planning, and personal growth. Mentors also benefit through professional development opportunities, learning to facilitate a developmental discussion, and satisfaction of supporting colleagues often more junior than themselves.

Multiple mentoring models exist each with their own benefits, including formal and informal programs, group and peer-mentoring, and electronic mentoring. Ethical issues of relevance to mentoring include ensuring psychological safety, issues of professionalism and power imbalance, issues of access, and recognition of gender-based, cultural and other differentials.

Despite being infrequent in anaesthesia, especially outside academic contexts, mentoring is increasingly recognised in medical education as an effective means of providing personal and professional support, facilitating development and broadening networks. In view of the increasing workplace stresses anaesthetists are currently exposed to, we argue for broader implementation of mentoring in anaesthesia departments and education, exploring benefits, methods for reducing risks, as well as practical tips for both mentors and mentees to make the most of this developmental opportunity.

Key words: mentoring; education; medical, mentor; mentee

What is mentorship?

This short review paper is intended to provide an overview of mentorship in medical education, its importance and effective use as a development opportunity. Although few issues are specific to anaesthesia, it is intended primarily for anaesthesia providers interested in engaging in new mentorship relationships, either as mentee or mentor.

For the purpose of this paper, we define mentorship as a longitudinal relationship occurring in academic and professional contexts¹ with the primary goal of supporting the career and psychosocial development of a mentee through dialogue that aims to increase self-awareness, insight and reflection². Trust, engagement, respect and empathy are essential features of the relationship. In this context, psychosocial development relates to how the individual interacts with social factors, for example managing relationships within the team, recognising and dealing with issues

of stress and burnout, and challenges to work-life balance.

Other professional relationships often overlap with mentorship (Table 1). Although each role has distinguishing features, a mentor may use elements from multiple roles in mentoring³ and some mentorship programs have been deliberately designed to blend elements from multiple roles⁴. For example, coaching is a fundamentally different process to mentorship, but mentors may include elements of coaching (e.g. asking questions to challenge assumptions without giving the answers).

Mentorship often involves a senior and junior colleague (the mentor and the mentee respectively), described as a dyad. Alternatively, mentorship may occur within a triad (e.g. one mentee with two mentors each with different experience) or larger group. Mullen and

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Table 1: Different kind of professional relationships throughout career development in medicine

Mentor	<ul style="list-style-type: none"> • May be formal or informal • Mentor is often chosen for having more knowledge or experience in a given domain than the mentee, and often a role model • May offer advice and guidance, or share their own experiences, or help the mentee reflect on their experiences • May ask open-ended, closed or leading questions as part of dialogue. Often gives advice. • The primary goal of the relationship is to further the goals of the mentee, but often significant benefits are available for the mentor in terms of their own development • May help deal with past, present or future situations • Psychological safety is a core element in the relationship • Likely a long-term relationship (years)
Coach	<ul style="list-style-type: none"> • Generally a formal role • Often a professional paid-for service, by someone with specific training in coaching, sought by the person being coached • Looks at the present to help guide future performance • Asks open-ended, not leading questions • Coach does not give advice but asks questions that challenge assumptions and prompt reflection • Can be someone entirely outside of the industry/area of expertise of the person being coached. Benefit does not stem from being a role model. • Psychological safety is a core element in the relationship
Sponsor	<ul style="list-style-type: none"> • Usually an informal role where the sponsor acts as an advocate for their protégé (a junior worker who the sponsor sees as having lots of potential) • Sponsor has a position of authority or influence in an organisation or field • Sponsor can create opportunities that the protégé may not be able to access on their own • Relationship may be transactional - if the protégé fails to “deliver”, it may reflect poorly on the sponsor
Advisor	<ul style="list-style-type: none"> • Usually a formal role • The advisor should have more knowledge or experience in a given domain than the advisee • Primarily offers advice and guidance
Counsellor	<ul style="list-style-type: none"> • Usually formal role - reactionary intervention to support an individual in managing a current problem or a past experience • May ask leading questions and open-ended questions • Non-judgmental, may give advice
Supervisor	<ul style="list-style-type: none"> • A formal role • Has a position of authority over the person being supervised • Relationship is characterised by being accountable to the supervisor who has some role in assessing the performance of the person being supervised • Often a direct educational role in supervision, whether clinical or non-clinical • Need for accountability may take priority over psychological safety • There may be a conflict between the need for openness and honesty about the struggles an individual may be experiencing and the need to pass training or performance targets

Klimaitis¹ have categorised mentorship into 9 models: formal, informal, diverse, electronic, co-mentoring and collaborative, group, peer, multilevel and cultural (Table 2). Furthermore, the structure of mentorship conversations varies, ranging from those that are unplanned to planned meetings with identified expectations and goals. Topics discussed may include clinical development, teaching, quality improvement and research projects, career aspirations, networking opportunities and dealing with psychosocial issues (e.g. conflict management, teamwork and relationships).

Mentorship is a socially constructed phenomenon. It creates a space for individuals to develop a relationship and share dialogue. How the individuals involved view their position and experience the relationship, varies with many factors and is continually changing, so individuals each gain differently from mentorship. Despite this, research suggests common themes in the benefits for mentees from successful mentorship including enjoyment⁵, higher job satisfaction and faster career progression⁶.

Table 2: Nine mentoring models (adapted from Mullen and Klimaitis, 2021¹)

Formal	<ul style="list-style-type: none"> Planned and structured, e.g. mentoring new consultants as they transition into their role Mentor may be assigned to mentee Commonly part of an institutional program or backed by organisational leadership, therefore more likely than informal mentoring to have structures, training and guidance in place
Informal	<ul style="list-style-type: none"> Established by the mentee and the mentor themselves, rather than the organisation- a strength as it means buy-in from both Some mentees may struggle to find informal mentors, especially women and under-represented minorities in medicine
Diverse	<ul style="list-style-type: none"> Pairs individuals with demographic diversity to help understanding of each other's lived experiences, recognition of institutional and other barriers, and understanding the role of power relationships and situational contexts
Electronic	<ul style="list-style-type: none"> Activities occur by email, social media, technology-communication platforms and other online methods Communication can be synchronous, for example using a video-call, or asynchronous, for example using email Requires sufficient technology resources and internet by all parties, otherwise access becomes a limiting factor Particularly pertinent during a pandemic
Co-mentoring and collaborative	<ul style="list-style-type: none"> Mutually beneficial, dynamic relationship directly supporting both parties in their development, as though parties have the role of both mentor and mentee
Peer	<ul style="list-style-type: none"> Mentors and mentees are similar in age, experience or knowledge, particularly popular in the undergraduate setting Mentors and mentees can support each other, similar to co-mentoring Mentees may be able to relate better to mentors at the same position in a hierarchy and mitigates some ethical challenges relating to seniority and power Some programmes have used a "facilitated-peer" or "vertical" mentoring model to support junior mentors with more senior faculty
Group	<ul style="list-style-type: none"> A group of three or more people established with the objective of supporting each other's growth Often a senior figure in attendance taking the mentor role, although this is not a requirement Group benefits from the multiple perspectives in the room and development of the team
Multi-level	<ul style="list-style-type: none"> Large institutional programs where leaders and staff decide the changes required in the institution and then multiple mentoring networks are implemented in horizontal and vertical directions towards this Systems level change often the target
Cultural	<ul style="list-style-type: none"> Shared democratic values and experiences of discriminatory behaviour and exclusion form the basis of the mentoring, aiming for wider social change rather than focusing on the growth of the individuals involved

In medical training and practice, mentoring programs most commonly focus on non-clinical or non-technical skills², for example, teamworking, leadership, and skills for driving system-level change⁴. Therefore, it is widely believed that mentees developing these skills also benefits organisations.

Mentorship in anaesthesia

There are specific challenges concerning an anaesthetist's role that may be well supported by mentorship. Anaesthetists often practice in highly stressful situations managing high-risk patients in complex work environments⁷, and have been reported to be a high risk for stress, burnout and depression^{8,9}. These concerns have increased during the current COVID-19 pandemic. Mentorship has been suggested to play an important role providing anaesthetists with increased professional support structures, thereby increasing the ability to deal with these issues⁷. Anaesthetists practicing in low- and middle-income countries (LMIC) are often professionally isolated, resulting from the low density of anaesthesia providers (also a challenge for finding mentors), and anaesthesia often has a lower professional status than other specialties. The professional

support and networking opportunities mentoring brings could be particularly valuable in these contexts, however there is a lack of research concerning mentorship in anaesthesia and where this exists, research commonly focuses on programs in high-income countries and in academic departments.

A study using semi-structured interviews to investigate mentor and mentee outcomes in a formal, institutional post-graduate mentoring program in anaesthesia in Canada, found that residents valued the psychosocial support and nurturing of a mentoring program, in particular residents in their junior years and at periods of transition¹⁰. Other mentoring programs have also claimed that mentorship may be useful at career transition points, for example starting as a new consultant.

Another Canadian study¹¹ found 79% of mentored anaesthetic residents reported mentoring was important to success as an anaesthetist, and 86% of respondents reported they benefitted from mentoring, most commonly citing building confidence, development of clinical and teaching skills, and achieving personal goals as outcomes. As with other papers⁶, the quality of the mentoring

relationship emerged as an important theme, and mentees reported that having a choice of mentor and matching individuals based on common interests could improve the relationship.

Correspondingly, a study in the USA exploring anaesthetists' perceptions of the usefulness of mentoring in a formal academic mentoring program, found 71% of respondents reported mentoring was either "important" or "very important", but interestingly this proportion did not increase over the course of the program¹². It may be that participants expected mentoring to be valuable prior to taking part and therefore their opinion did not change, or that as the authors argued, a change in perception would require a longer study period.

Academic mentoring

Mentorship has potentially been more common in academic settings, compared to fully clinical career pathways or within teaching and educational leadership⁶. There may be particular needs within academic anaesthesia that can be met through mentorship. In academic medicine, junior team members face the pressures of entering into an unfamiliar academic world where performance demands, for example publications and grants, are high¹³. Therefore, academic medicine is one context where the role of mentor often overlaps with the role of advisor or supervisor by supporting the development of research ideas and skills, as well as the career and psychosocial development more familiar to mentoring. This can include learning to manage institutional pressures experienced, setting achievable goals, and developing strategies for balancing academic, clinical and personal lives. By viewing their mentor as a role model, mentoring is also suggested to reduce the risk of ethical malpractice in research- a known risk of workplace pressures to meet output requirements in academic environments¹³.

Makerere University College of Health Sciences, Uganda, reported on a long-standing academic mentoring program supporting post-graduate doctors in specialist training as well as junior academic faculty¹⁴. The authors raise the importance of contextual factors to mentoring programs in LMIC, including powerful hierarchical differences in the workplace¹⁴. In this study, the personal characteristics of the mentor were very important to the mentee, suggested by the authors to be of greater importance in a highly hierarchical context, and therefore ensuring mentoring was a relationship of mutual trust and respect was comparably more important¹⁴. Mentor respondents also supported this finding by stating that mentees need to feel free of intimidation in the mentoring relationship, enabling them to speak openly and feel empowered in order for personal development to be achieved.

A study exploring mentoring views of junior and senior physicians at a tertiary health institution in South-Eastern Nigeria reported one-third of participants were involved in a mentoring relationship with the majority describing this as informal mentoring¹⁵. Interestingly, when defining a mentoring relationship, respondents more commonly cited training, supervising, advising, guiding and counselling, teaching, coaching and assessment roles rather than mentoring being about personal and professional relationships. This contrasted responses regarding the benefits of mentoring, which instead focused on professional and personal growth¹⁵. Similar

findings were reported in the Ugandan study, and both papers argued that in a LMIC setting, fewer senior staff means mentors often have multiple professional roles and separating these out becomes difficult^{14,15}. We suggest that whilst this cannot be avoided, mentors need to be especially aware of the impact other roles (for example supervisor or assessor) have on the mentoring relationship, and find ways to ensure mentees have the safety needed to speak openly about their difficulties.

Mentoring during a pandemic

The psychological and emotional support provided by mentoring is potentially even more valuable during the current pandemic. Whilst entire medical teams are under unprecedented stress with novel workplace challenges, it may be difficult for individuals to talk openly about their fears, their wellbeing, and their need for emotional support. Team members may be less available for open discussion in view of increased clinical and leadership demands, and concerns about speaking openly, risking assessment or career progression.

Mentorship, provided by someone who is not a direct colleague but understands the situation and can empathise and actively listen, creates a sense of connection¹⁶ and increases support during this pandemic where existing structures may be less accessible or under new strain.

Electronic mentoring offers many advantages in the context of a pandemic³. Here communication can occur synchronously, for example using videoconferencing or calling, or asynchronously using e-mail or social media and communication platforms, for example WhatsApp. Social media platforms have been argued to be an effective means of networking by expanding the mentors available and creating an environment with a more flattened hierarchy and a degree of anonymity, and therefore a safer environment for individuals to approach potential mentors¹⁷. Additionally, social media campaigns working to address stereotypes in medicine (for example #ILookLikeASurgeon and #BlackMenInMedicine) may themselves increase networking, leading to mentoring relationships¹⁷.

Electronic mentoring may also have specific advantages at this time: arranging meetings is more flexible and both mentors and mentees may feel more comfortable talking openly in a one-to-one online interaction which they can participate in from their home, in contrast to academic and workplace environments where often the junior party feels like a guest, perpetuating hierarchical imbalance¹⁸. Individuals working at smaller or more rural institutions, who traditionally have less access to mentorship and professional networking opportunities, may now be able to join distance programs. Despite this some challenges exist, in particular the lack of reliable internet connectivity can mean some individuals may not be able to access this opportunity.

Ethical implications of a mentoring relationship

As discussed, the nature of social relationships leads mentorship to be experienced differently by all those involved. Often this is a strength, showing the adaptability of relationships to evolve to meet the needs of individuals, but there is also the risk of failing to benefit or of experiencing negative consequences. Some of these risks can be ameliorated by considering the ethical implications of

mentorship. The following are ethical issues to remain aware of, and considerations to reduce their existence within a mentorship relationship or program.

Inadequate psychological safety

Psychological safety is an individual believing they can speak honestly and openly about their thoughts, fears and experiences, without negative repercussions¹⁹. It is essential that mentees feel this level of safety in order to engage fully in the mentoring process.

Creating a confidential environment is essential for building trust and for psychological safety. In cases of group mentoring, all members of the group need to agree to this in order to create a safe environment. Some programs deliberately match mentees with mentors external to their organisation or speciality to add to confidentiality and psychological safety⁴, and enable an external perspective which may help the mentee take a wider view of their situation.

Professionalism and power imbalance

Unprofessional behaviour in the mentoring literature includes breaching professional boundaries, bullying, racism, sexism and claiming credit for the mentee's work^{20,21}. It has been suggested that severe professionalism breaches can commonly be traced back to earlier, more minor acts of unprofessional behaviour, therefore recognising and acting early is essential²¹.

Issues of differences in power can limit the engagement of mentees, reduce trust, and there have been reports of power imbalance in mentoring leading to both bullying and sexual harassment²¹. Even in peer mentorship, where there is little difference in seniority between individuals involved, power can still exist. Accordingly, there is consensus that in all mentoring relationships, the mentor must be aware of the vulnerabilities of the mentee³.

Having a professional code of conduct for mentors and mentees setting out expectations, combined with appropriate oversight and monitoring of mentoring programs by host institutions, can help reduce both the risks of unprofessional behaviour and power differentials. This helps reduce negative outcomes from mentoring for the individuals involved, and also helps to role model the organisation's expectations of professionalism.

Gender-based and cultural differentials

It has been reported that under-represented groups may lack the role models and contextual support needed to excel, and that this need can be partly met by mentoring²². Ensuring under-represented groups receive mentorship is also argued to improve inclusivity and diversity in the workplace, improve understanding among the workforce of the challenges encountered by minority groups, and increase productivity²³. Despite mentees wanting programs to consider needs associated with gender or cultural background, they are often not consulted or offered this during matching¹¹. There have also been multiple reports of mentors selecting a mentee that they feel they can identify with, with gender and cultural backgrounds being commonly cited^{24,25}. This therefore creates an unconscious bias where juniors who are similar to senior staff demographically, are more likely to receive mentor support. As mentorship supports career advancement and achievement of promotions⁵, diversification

at senior level is limited unless mentoring programs specifically address issues of equity.

A systematic review of mentorship for women in academic medicine in the USA reported that mentoring programs were consistently viewed as beneficial by participants and that gender concordance between mentors and mentees did not appear to impact outcomes²⁶. However, some studies find that mentees from underrepresented backgrounds prefer matching based on demographics, stating that a shared sense of history and the increased ability to see yourself in a similar role to your mentor is valuable²⁷.

Farkas et al²⁶ found that some programs focusing on the mentoring of females specifically focused on achieving faculty recruitment, retention, promotion and scholarship, and used these as outcome markers, suggesting some mentoring programs focusing on underrepresented groups may blend mentoring with sponsorship (Table 1), especially in working towards improved diversity at leadership level in organisations.

A study of residents interested in pursuing a career in academic medicine in the USA found participants from racial minority groups did not report less access to mentorship but did report barriers that they believed affected their potential gains from the relationship, for example a shortage of female or ethnic minority mentors²⁷.

Ensuring diversity is taken into consideration in mentoring programs requires actively seeking mentors from under-represented groups (which can be challenging as often fewer in number²⁶), ensuring mentors are trained and supported in recognising issues of equity, and openly asking prospective mentees about their needs associated with gender and culture during the matching process. Group mentoring, peer or near-peer mentoring may be particularly beneficial here by enabling mentees to hear experiences of other people they identify as similar to themselves, in addition to the experiences of their mentors.

Entering into a mentoring relationship

Some top tips for developing a mentoring relationship are listed in Table 3 and explained in more detail here.

Finding mentorship

Local formal programs are most likely to have trained mentors who have the time and capacity to fulfil the role and are also more likely to have the support structures needed, for example codes of conduct and formal guidance for mentors and mentees. Informal mentorship, where the individuals involved start the relationship without an organised program, is also useful, especially in the case of mentees who already have a colleague or other professional they see as a role model and find it easy to talk to. In these cases, mentees should have the confidence to approach a conversation with a prospective mentor about developing a mentoring relationship, often seen by potential mentors as a compliment and often will appreciate being identified as someone who could be valuable in this capacity.

It is important that all parties enter into this voluntarily. We suggest that programs where mentees can choose their mentor are particularly advantageous as this autonomy and opportunity for ensuring a shared interest has been shown to lead to improved engagement and more authentic conversations¹⁴.

Table 3: Tips and advice for mentors and mentees

Mentors	Mentees
<ul style="list-style-type: none"> • Have an initial discussion about the goals for the mentorship relationship, what you intend to achieve, what areas you will focus on and if you have specific aims for the relationship • Be clear about what you expect of each other including the time commitment and how you will communicate 	
<ul style="list-style-type: none"> • Be available, check in frequently and assign dedicated time to developing the mentorship relationship • Ensure a safe space for discussions where the mentee knows that what is discussed will be confidential • Learn do to active listening • Set boundaries • Be non-judgmental and offer honest feedback • Share your own ideas and experiences • Empower the mentee 	<ul style="list-style-type: none"> • Don't be afraid to ask someone if they would consider being your mentor and to "formalise" a relationship even outside of a formal mentorship program • You may need to find multiple mentors for multiple goals of domains of activity • Good mentorship relationships are often mentee driven – be active and don't wait for your mentor to schedule meetings • Make sure the mentoring discussions focus on what you would like to get out of the relationship

Being a successful mentor

It is important mentors are approachable, open-minded and non-judgemental throughout the relationship. It is useful if mentors ensure there is opportunity at the start for individuals involved to discuss goals and expectations for the relationship, as well as preferred methods of communication. Most common issues surrounding motivation and commitment arise from poorly defined goals and expectations, a lack of guidelines, and a lack of ongoing support from mentoring programs. Mentors and mentees aligning expectations, goals and boundaries can help with this, often via a written mentoring agreement.

Mentors should continually set the tone for open, blameless discussion and consider how to encourage dialogue and reflection from the mentee without falling back on telling them what they think the answers to the challenges are. Active listening (Table 4) is a useful skill in doing this, leading to more meaningful developmental conversations.

It is also important to be aware that mentorship also has value for the personal and professional development of the mentor. Mentors gain personal satisfaction from supporting mentees, develop communication skills including active listening and gain experience of developing trusted relationships in the workplace²⁸. Facilitating another person in their self-reflection and development of their ideas is a valuable skill in medical education and can be developed through

mentoring. Mentorship also offers mentors the opportunity to reflect on their own practice and career, in distilling the lessons they have learnt to support another individual²⁸. Mentorship increases professional networking and sharing of new ideas³ for the mentor, opening doors for more longer-term collaboration. Undertaking a mentoring role can also be a stepping stone to other educational leadership positions and for career advancement²⁹. Appropriate training, access to other professional development opportunities, and recognition of mentors' contributions by their organisation, for example at appraisal, and protected time to participate and organisational mentorship awards, all support mentors in gaining from this relationship.

CONCLUSION

Literature about how mentoring exists in anaesthesia and its benefits is lacking, especially outside of academic anaesthesia and high-income country contexts. However, available evidence shows that mentorship is a powerful tool for career and psychosocial development, under-used in anaesthesia, and may be particularly useful for dealing with the challenges of being an anaesthetist in an LMIC. This is especially the case in view of evidence of high levels of stress and burnout among the anaesthesia workforce, as well as increasing workplace challenges including this pandemic.

Table 4: Active listening

		Example phrases
Mirroring	Repeating what has been said to encourage more talking	"So what I hear you saying is.."
Clarifying	Checking understanding	"What exactly do you mean by that?" "I think what you are saying is..."
Summarising	Repeating the main points discussed	"Let me see if I have it all..."
Validating	Showing understanding of the issues and their importance	"I can see that this is important" "That resonates with me because..."
Empathising	Showing understanding of the feelings experienced	"I can see why you feel so strongly about that"

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