Stature of anaesthetic personnel and positioning of patients

Anaesthetists and their assistants come in many shapes and sizes. Administering anaesthesia (and assisting the process) involves physical skills in the performance of several techniques. Can there be a connection between these two statements? It is many years now since a friendly colleague, observing my i.v. cannulation technique, suggested that either I needed longer arms or spectacles. Devices to combat presbyopia are easily acquired, socially acceptable and no one thinks twice about using them. Are there other clinical situations where we should consider simple methods of compensation for physical diversity? With the certainty of being politically incorrect, I shall refer to vertically challenged and those of below average height as short. I think we should pay some attention to the difficulties encountered by short people who become part of the anaesthetic team.

In this issue of the journal Meek, Vincent and Duggan¹ describe the difficulty of maintaining cricoid pressure for more than a short time in the simulated circumstances of induction of anaesthesia. If times for laryngoscopy and intubation are prolonged, protection from regurgitation may be interrupted. They showed that it is easier if the assistant’s arm can be extended and the elbow locked. A first thought might be that a very tall assistant is a good idea; a second thought might be to lower the trolley. Currently, the latter is often impossible. The ability to place the patient’s head down is a generally accepted prerequisite for induction of anaesthesia and it should be possible to bring the head and neck low enough for easy application of cricoid pressure. However, it may encourage regurgitation. In addition, it may leave the anaesthetist, already in difficulties, coping with a patient in an even more difficult position. We have all performed intubations on our knees, but few favour it. A simpler answer is to use the platform(s) provided in operating suites for members of the team. Each adds 12 cm and they are designed to fit securely if more than one is used.

Stature-related difficulties also attend resuscitation. A small study indicated that those shorter than 176 cm were unlikely to be able to maintain external cardiac compression for as long as 1 min when tested on a mannikin placed on a standard operating table at its lowest position (84 cm).² In recent years, it has seemed more difficult to teach laryngoscopic technique to novices, and although the increased prevalence of anterior tooth restorations and obesity (in patients) undoubtedly contribute, there may be other factors.² Patient trolleys seem to be higher than when I started training (88 cm is common); they certainly have thicker mattresses (70–80 mm vs 30 mm). These changes probably result from concern for nurses’ backs and patient comfort.

Although some of the recent changes in anaesthetic training have been less than enthusiastically received, detailing more of the requirements is generally regarded as helpful. The brief learning materials issued by the Royal College of Anaesthetists instruct trainees to “Learn how to teach your anaesthetic assistant to apply cricoid pressure”. A recent editorial emphasized the vocational nature of medical education and outlined the increase in competency-based training.₄ It did not comment on the fact that training of anaesthetists’ assistants is now based on the level 3 National Standard for Operating Department Practice within the National Council for Vocational Qualifications scheme.⁵ Perhaps all anaesthetists, rather than a self-selected few, should take an interest in the system that provides them with such a general level of excellent help. Application of cricoid pressure is dealt with under element (a) of unit 6: “Assist at establishing the patient’s airway”. Second among the performance criteria is “The patient is appropriately positioned for establishing the airway”. Within the “range” statement under procedures rapid sequence induction and cricoid pressure are listed.

All that seems to be required therefore is that trainers and assessors of anaesthetists and their assistants should maintain best practice within these frameworks. Precisely what they should teach however is not absolutely clear and I refer later to some areas of difficulty. They would be aided by further simple research into the effectiveness of the technique of application of cricoid pressure under a range of circumstances and of the teaching of the technique.

Our day-stay unit has been equipped with trolleys that function as operating tables thus eliminating the need for patient transfer. I regarded this initially as extravagant but soon realized that the capacity to adjust the height of the patient—nice and high for cannulation to save my back, a bit lower for airway management, even lower for short trainees—was ergonomically attractive. I believe we have some evidence to justify additional costs. We are assessing possible replacements for our theatre trolleys. The sophistication of design available in comparison with our current stock is striking. Two of the models offered are easily adjustable for height giving a range of mattress surfaces of approximately 70–97 cm. These trolleys will give the anaesthetist and assistant more control of their circumstances and are preferable to positioning the patient on the operating table before induction (a manoeuvre that can cause considerable pain and distress). Platforms must still be available for extreme conditions.

There is a need for anaesthetists to focus on these simple physical matters. Surgeons are accustomed to having the patient placed in the most appropriate position for their surgical procedure. No ENT surgeon would start a laryngoscopy without having the patient’s head as near to the top of the operating table as possible and the angles of the head, neck and shoulders as they perceive correct. Our airway manipulations are just as important and may be time
dependant for patient safety; our techniques need to be at least as rigorous. We should not start induction of anaesthesia without considering if the position of the patient is optimal. We may judge that causing pain by moving them is not justified in a case where no difficulty is anticipated but this should be a conscious judgement. All too often valuable time is lost by having to adjust pillows when the patient’s airway is unsecured. Textbooks stress correct positioning for airway management but it is an index of our failure to emphasize the importance of this to medical students during their anaesthetic attachment that junior doctors faced with the perceived need to intubate in the absence of an anaesthetist almost universally remove the patient’s pillows. Welcoming the patient to the anaesthetic room and identifying oneself as their anaesthetist (now dressed differently) should be followed by explicit attention to position. Moving the pillow(s) from under the shoulders has the added bonus of a grateful “Ah that’s better” from many patients.

Many failed intubation drills commence with a laudable preamble about checking the anaesthetic machine suction equipment etc. I have not found one (including our own!) that mentions the patient’s position before induction of anaesthesia, although Harmer suggests repositioning pillows when difficulty is experienced in inserting the laryngoscope. However an extra anomaly emerges with regard to cricoid pressure. There is apparent conflict between the requirement for flexion of the neck to produce good conditions for laryngoscopy and extension of the neck to provide effective cricoid pressure. Even my personal favourite when it comes to a clear description of laryngoscopic technique, the Synopsis of Anaesthesia, having prescribed neck flexion subsequently details the application of cricoid pressure: “the neck is extended...”. It may be useful to regard the neck as a rigid column when explaining laryngoscopy but it becomes an oversimplification with reference to application of cricoid pressure: flexion and extension are not adequate as single descriptors of cervical spine posture. Authors who refer to necessary neck flexion as “lower” neck flexion help to resolve this difficulty as it seems likely that the flexion caused by unopposed cricoid pressure and referred to as increasing laryngoscopic difficulty occurs higher up the cervical spine. Trainers and trainees deserve a clearer exposition of what should be taught.

M. L. Heath
Blackheath, London

References