

Good surgeons make for good assistants and good assistants make good surgeons!

Apprenticeship

All artisanal knowledge and craftsmanship were acquired through apprenticeships. Skills and knowledge were passed down through the process of 'looking and doing and learning'. The master demonstrating the tricks of the trade and the apprentice learnt by trial and error – if the product was spoiled in this process, the guardians or parents of the apprentice were obliged to compensate the master for the loss. Expert masters were in demand. Apprenticeships training prevailed through the modern era and is still found in many parts of the world. Guilds of master craftsmen were an upshot of this method of learning – many are celebrated and still function today. Some guilds can be traced back to the 12th century – with one of the earliest charters in existence today belonging to the Weavers Company in 1155. Those working in the same speciality lived near each other to regulate the work, maintain standards and fix prices and resist competition. Many established their own halls and adopted their own regalia establishing the Livery companies – There are one hundred and ten livery companies in London; the Society of Apothecaries was established in 1617 and uses one the oldest surviving halls in London near Blackfriars Bridge. The Worshipful Company of Barbers is now seven hundred and thirteen years old.

The barber surgeons were not accredited by universities and formed into guilds of craftsmen. The apprenticeship model of training was established. In 1505, the Incorporation of Surgeons and Barbers, became the foundations of what is now known as The Royal College of Surgeons of Edinburgh. A Seal of Cause conferred privilege but also mandated a knowledge of anatomy and surgical procedures.

The art of Japanese sword making is poorly understood and takes a lifetime commitment. Even today, the minimum apprenticeship is five years and unpaid. The whole process is embedded in rituals and arts that are shared by the master to the right apprentice. Very often this was done with the apprentice just observing the master at work. This method of learning may indeed be cultural and born out of respect. Tachi Ohno, the original CEO of Toyota used to put aspiring managers in a drawn circle on the shop floor for the day, at the end of which he asked the applicant what they observed. Gary Kaplan of the Virginia Mason Medical Centre in Seattle has adopted the 'Toyota way' to run his internationally renowned hospital - every year he takes his 'Kaizen' team to the Hitachi production line to observe.

A colleague recalled his years as a Medical student at the Christian Medical Centre in Vellore in India. He tells me that the training surgeons paid their 'Masters' for the privilege of being taught.

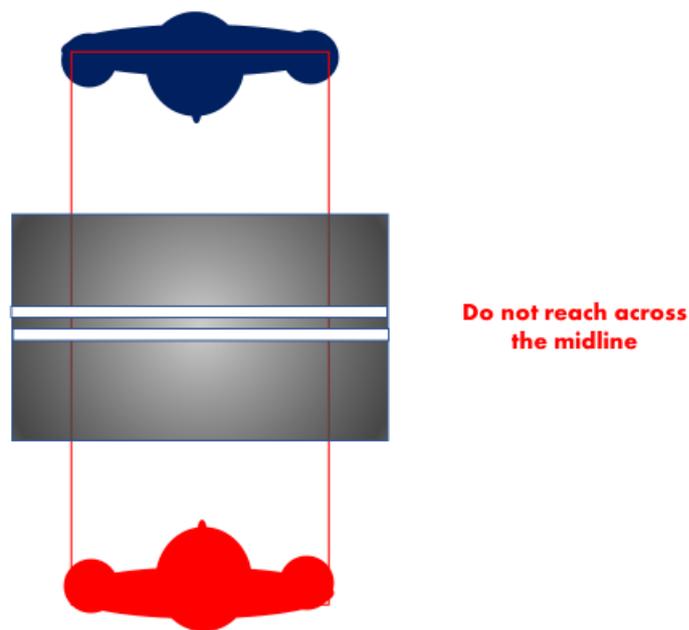
Preoperative preparation

The trainee surgeon starts their career assisting – this is very often an observational process but does the trainee actually 'look and learn'. Good assisting requires an understanding of the principles and an ability to identify the relative dependency of the several parts of the operation. It is useful to watch a procedure from the top and before scrubbing up. A good understanding of the anatomy will enable the assisting surgeon to enquire about approaches and the development tissue planes. The surgeon and the assistant will benefit talking through the operation and identifying the learning points.

Good trainers and enthusiastic trainees should make this explicit before a procedure to make the encounter more meaningful. Every 'master' surgeon has acquired tips and tricks over a lifetime. Lord Moynihan described surgical experiences as a 'posy of other men's flowers.' It is therefore useful to pay attention to the little things, as described in the Samurai text to glean those flowers that will make a career-long- posy.

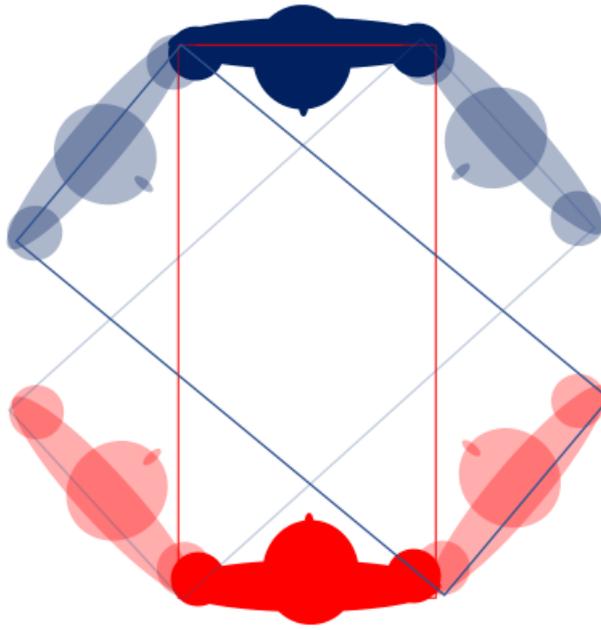
A dance macabre

Dancing champions work in harmony, leading and following imbuing the movements with a flow and rhythm. A good assistant will, over time, become attuned to the nuances of the surgeon lead. Sometimes this will be intuitive, but it certainly can be practiced. There are important principles to the dance of assisting.

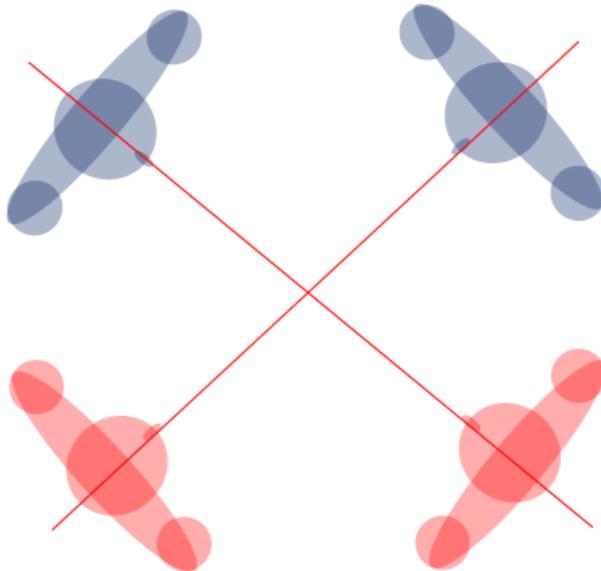


Do not reach across the midline i.e. do not reach across the table. This is akin to the double white lines in the middle of the road. Remember that the 'flight-path' for needed instruments will be between the surgeon and the scrub nurse who is usually standing to the side of the surgeon.

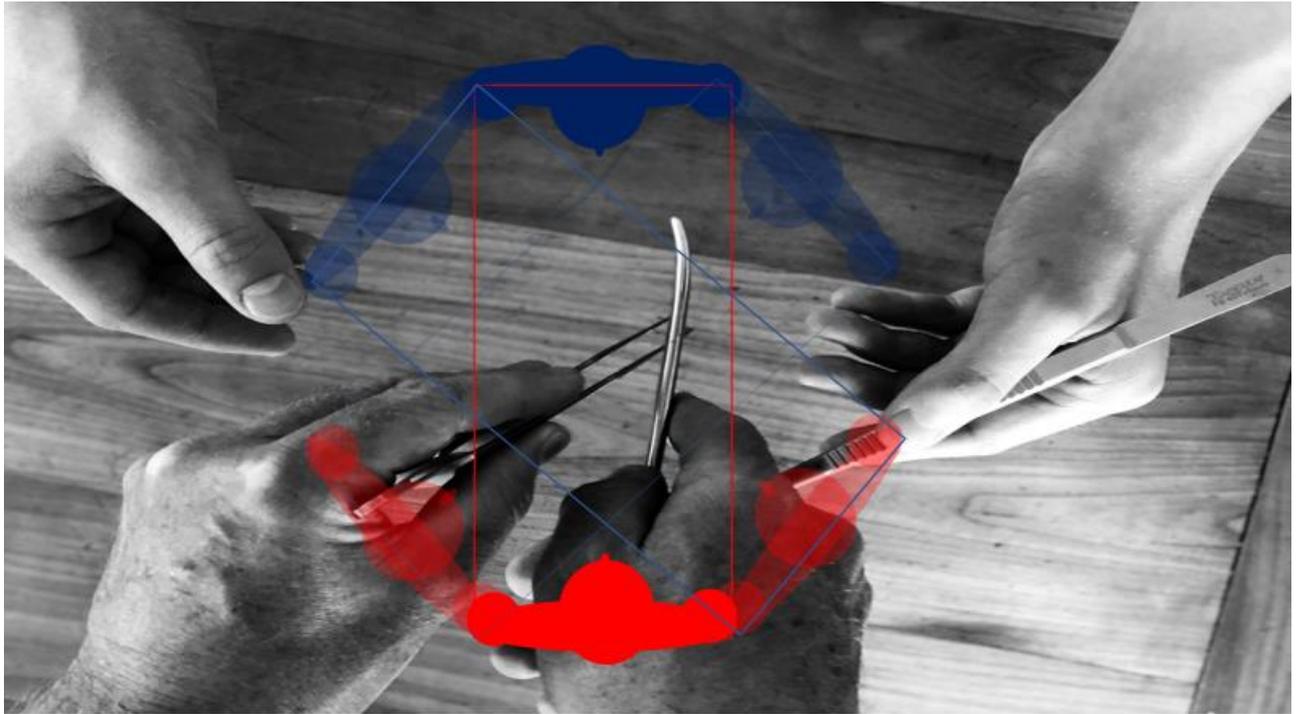
The assistant should keep their shoulders parallel to those of the surgeon whether the movement is a change or position of the feet or the rotation of the shoulders with the hips on changing the weight distribution of the feet.



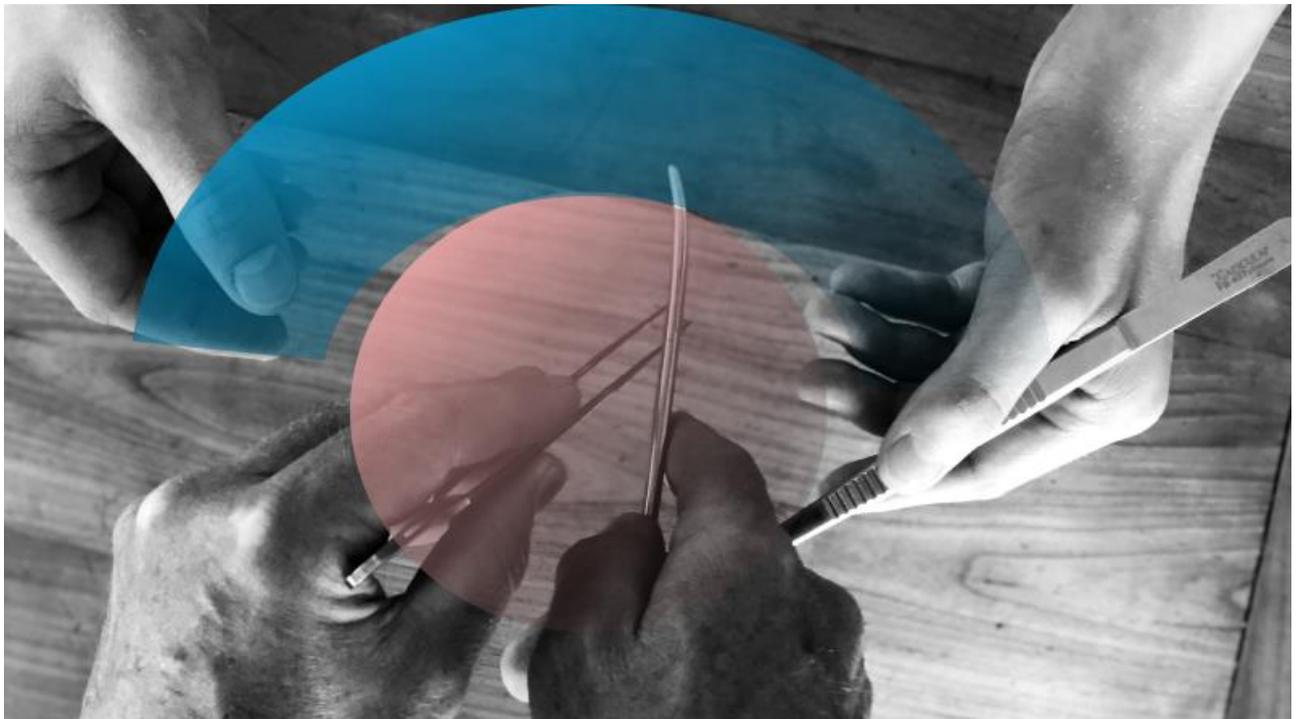
The midline between the surgeon and assistant is thus maintained



The assistant should never cross their hands i.e. the midline of their body. Therefore, it is important to recognise that the function of the hands will change repeatedly during the operation depending on the relative position of the surgeon and the assistant. The forceps and the scissors, the most used instruments by the assistant, need to be as effective in the dominant and the non-dominant hands (using scissors with the left hand requires practice)



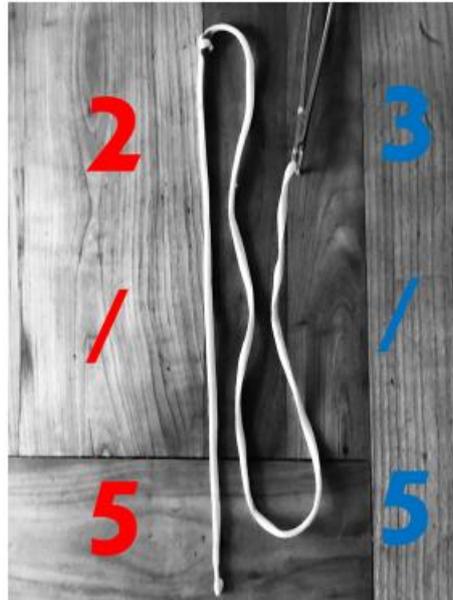
The operative field is the area of movement and concentration of the operating surgeon. The assistant should keep their hands on the perimeter of the operative field, in many circumstances this is demarcated by the retractor.



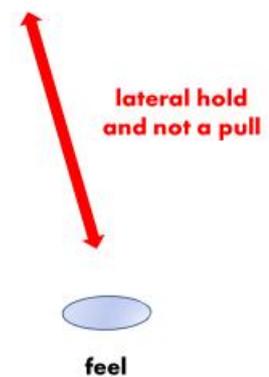
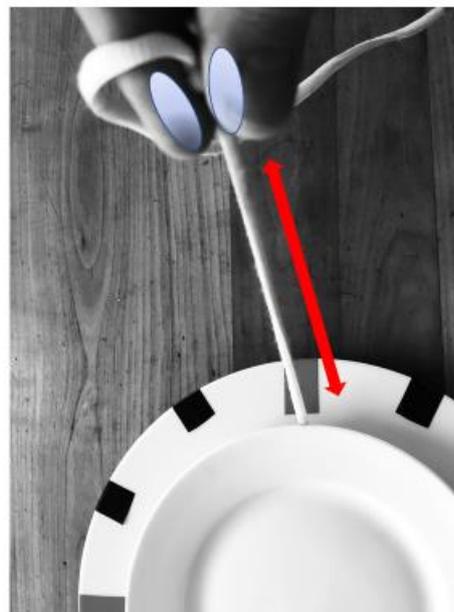
Following

One of the most important tasks of an assistant is to follow the suture. The following of the suture is a 'lateral hold' in the direction and under the same tension the operating surgeon has indicated. It is vital to maintain that tension whilst enable the surgeon to talk another stitch. The suture length held under such conditions equates to $\frac{2}{5}$ of the remaining suture. In other words, a $\frac{3}{5}$ length of

suture material is available, without any loops to enable the next stitch to be performed without interference or any chance of accidentally knotting the suture.



The suture is held gently between the pulps of the forefinger and thumb with the apposition plane directed towards the origin of the suture. This means that should the assistant fails to recognise when to let go of the suture, it will not catch on the fingers and potentially cheese wire out of the tissues.



Do not wrap the fingers around the suture as this will further exacerbate the problem and the tug on the tissues will be more severe.



Flag signals

The operating surgeon will hold the suture up and pause to enable the surgeon to retrieve and hold the suture as described. These instructions will be verbal at first, but the rhythm and the flow of the operating will make it very apparent when to do the same without verbal cues.

The instruction to cut a suture will be given by the operating surgeon but if both ends of the suture are held up together, this is the 'flag signal' to cut the suture. If in doubt, then ask.

Cutting sutures is a deliberate exercise requiring accurate positioning of the scissors and opening the blades just enough to complete the task under direct site; and with draw.

Look and learn

Assisting is often considered boring but if you *look and learn* there are many flowers to be gathered into your future posy.

THE LOOK AND LEARN BOOK 1975

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