Gifted teachers

There is an irony at the heart of medical education: to learn how to preserve life, medical students have to come to terms with death. They meet death very early in their course, not just as an abstract concept or a list of legal criteria listed in a textbook, but in the close-up, physical reality of the anatomy laboratory. Here, young doctors-to-be have their first (gloved) contact with what remains of a human being when the life has gone. Along the room are ranks of tables, equipped with down-draught extractors to protect everyone from formalin fumes, and on each table lies a cadaver, respectfully covered when not in use with a green sheet. Near the tables are skeletons, plastic models of internal organs, X-ray viewers, virtual reality machines, grisly things in glass jars and a host of other props appropriate to whatever is being taught that session.

Edinburgh students no longer dissect cadavers as part of their core course, because it takes too long and ends up with too many delicate structures damaged. Instead, they examine and explore cadavers that have been dissected expertly by anatomists and surgeons-in-training, the explorations being guided by workbooks and by anatomy demonstrators. The loss of actual dissection matters less to surgical training than one might suppose, because dissecting fixed (embalmed), dead tissue is not very much like operating on a living person and surgeons have now developed better techniques for teaching manual skills later on. What students really gain from examining the bodies is a strong grasp of humans' intricate internal structure, in a way that neither traditional textbooks nor fancy virtual reality worlds, with their too-bright colours and their too-standard anatomies, can quite give them. As the years of undergraduate education go by, the students come back again and again, to view different body systems.

I teach mainly embryology now, so seldom teach at the bodyside, but when I do it is to support my year 1 and 2 lectures that between them cover nephrology, urology and reproduction ('nephrons and naughty bits', as the students put it so succinctly). The blood supply to the excretory and female reproductive systems is notoriously variable, and usually at least one cadaver obliges by having blood vessels that follow courses wildly different from those in the textbooks. Just handling the vessels to point them out can show other variabilities, from the soft springy feel of a healthy vessel to the stiff, crunchy feel of one with atherosclerosis. Sometimes feeling this can prompt an alert student to have a quick look up at the heart, where an old bypass operation might perhaps be found.

Other cadavers may show evidence of endometriosis, or cystic ovaries, or prostate metaplasia, or vasectomy – all incidental to the main purpose of the class, but all very useful in helping students connect the different domains of their knowledge. Sometimes, too, a cadaver allows us to play tricks on the students – for example asking them to identify the uterus and wondering how long it takes them to twig that the cadaver had had a hysterectomy, and then of course following this up with examination of the results of the operation and discussion about how it is done. Other areas of the body can turn up similar useful variation, and anatomy teachers often note a 'star' cadaver that is particularly useful in making lessons more interesting. There is nothing disrespectful about this: the deceased gave their bodies for the sake of medical education, and the gift can be even more valuable when there is something unusual.

The students and staff really are very grateful for the gifts of the departed. One of the ways in which the Medical School expresses this gratitude is to hold a commemoration event in Edinburgh's famous Greyfriars Kirk, which is very near the anatomy department. Spiritual but not explicitly tied to any particular religion, the event gives the students and their teachers an opportunity to express their thanks. Relatives of the deceased are invited and most do come, and are very pleased to meet the students and staff and to talk to them over a cup of tea afterwards. Topics of conversation range far and wide but naturally some relatives want to tell us about the person who gave their body, and why they did it. This happened a few days ago. With a small huddle of students all listening to one relative in the reception, I heard about one life; about where a particular woman came from, and how she lived, and her family, and also about the health problems and the wonderful support she felt she had received from the NHS, for which felt she had wanted to 'pay' by helping the next generation of doctors. When we hear about donors' lives, we usually hear the stories slightly in the abstract because it is not usually clear which real person of the past corresponds to which cadaver of

Greyfriars Kirk (Credit: David Dixon, cc-by-sa-2.0)

the present. In this case, though, the catalogue of illnesses and treatments made it obvious 'who' the woman was in our terms, and the details of a rich life in a loving family attached themselves to very specific, and very helpful, mortal remains.

I think that I am speaking for the students with me, as well as myself, in saying that knowing more about the donor made us feel even more privileged and grateful to have been 'taught by her'. But I was also glad, I think, that her 'season' in the lab was coming to an end (anatomy schools do not keep material forever – they are not allowed to and fresh cadavers are anyway needed for a variety of reasons. At the end, the remains are cremated). It was really special to learn more about the background to one of our 'guests', but the usual complete anonymity, to be brought back with the fresh intake, is a blessing when one just needs to be able to explore an object without feeling that one is violating the boundaries of a person.

Cadavers do not just force students to confront death: they also provoke them to think more about life; about the relationship of the person to the body. Clearly a person is *of* the body, in the sense that they depend on it and are affected by its hormones and its needs and its maladies, but most people instinctively use expressions such as 'my body', a phrase that suggests the 'I' stands separate. Navigating the complex psychological landscape between body and self, being sensitive to the different amounts of identity or separation different patients feel between themselves and their bodies, is an important challenge for young doctors. Leading students to these issues is another way in which generous donors really do help with medical education.

On a typical afternoon, our timetables say there are four teachers in the anatomy lab: in reality, I think there may be many more.

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Links:

Greyfriars Kirk: http://www.greyfriarskirk.com/