

Review

PROFESSIONALISM DISSECTED: THE ROLE OF ANATOMY FACULTY IN PROMOTING MEDICAL PROFESSIONALISM

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Summary

Teaching and cultivation of professionalism is an integral part of medical education, as professionalism is crucial for maintaining public trust in the medical profession. Gross Anatomy, and especially cadaver laboratory dissections, is a unique position to preside over a large number of activities as responsibility, teamwork, respect for patients, response to social needs, commitment to scholarship and advancing the field, dealing with high level of complexity and uncertainty, responsibility for actions and decisions. Essential involvement and tools teach, evaluate and promote behaviors of professionalism accessible in the laboratory with cadaver dissections. Since students spend long hours in Gross Anatomy laboratories with faculty members, the setting can provide the forum for the faculty to assess the expression of principles of professionalism by the students during the first year of their medical education.

Key words: learning anatomy, professionalism, dissections, behavior, faculty

Introduction

Medical schools have long taught the technical aspects of medicine, but the focus on teaching professional and healing qualities has been more recent. Over the past two decades, medical professionalism has attracted a great deal of attention from educators, professional organizations and practicing physicians. The current focus has been driven by perceived threats to the clinical practice of medicine, including concerns about growing financial pressures and transformation of practice from a professional to a business model [1, 2].

Professionalism does not represent simply another diploma or qualification that is acquired by the doctor-in-training in order to practice independently. It is believed to be an acquired state, rather than a trait and one that takes a number of years to attain, and which must be maintained throughout a professional lifetime [3, 4].

There is no common definition of professionalism. Many organizations and numerous individuals have discussed the components of medical professionalism. The classic triad of professionalism consists of a high level of intellectual and technical expertise, autonomy in the practice and regulation of the discipline and a commitment to public service.

The specific attributes that have long been understood to animate professionalism are divided in two parts: *personal (intrinsic) attributes* – ethical practice (altruism, respect, honesty, dutifulness), excellence and accountability reflection and self-awareness, responsibility for actions (commitment to excellence, lifelong learning, critical reasoning) and *co-operative attributes* – respect for patients, teamwork, integrity, social responsibility [2, 3, 5, 6, 7].

Gross anatomy laboratories, based on cadaver dissections, seem to provide the more implicit skills to develop the basic elements of professionalism [8, 9, 10].

According to the Curriculum of Medical University of Pleven, the mean number of contact-hours in gross anatomy is 315, of which 135 are spent in the dissection room. Because of spending so much time with the students gross anatomists probably come to know the students better than members of any other academic discipline in the medical school, and are in the position to be able to develop instruments to introduce and evaluate professionalism [10, 11].

By making “dissection” of professionalism to elucidate how its core attributes can be manifested in teaching anatomy and how professionalism can be exemplified by students and faculty in basic science learning environment.

Table 1. Behaviors of professionalism to be accomplished during the anatomy course

№	Behaviors of professionalism
1.	Accepts constructive feedback and modifies behavior
2.	Adheres to institutional policies and procedures
3.	Adheres to local dress code
4.	Admits errors and assumes personal responsibility for mistakes
5.	Advocates for colleagues
6.	Advocates for society health issues
7.	Arrives on time for scheduled activities and appointments
8.	Attributes ideas and contributions appropriately to others
9.	Balances personal needs and patient care obligations
10.	Completes assigned share of team responsibilities
11.	Conveys information and answers questions honestly and tactfully
12.	Demonstrates sensitivity to power asymmetries in professional relationships
13.	Discusses colleagues without using inappropriate labels or comments
14.	Discusses cadavers without using inappropriate labels or comments
15.	Displays compassion and respect for all cadavers even under the most difficult circumstances
16.	Engages in informal teaching and learning activities with colleagues as appropriate
17.	Fulfills all laboratory responsibilities in a timely manner
18.	Fulfills all nonlaboratory responsibilities in a timely manner
19.	Improves team effectiveness through motivation and facilitation
20.	Intervenes immediately when unprofessional behavior presents clear and presents danger
21.	Maintains a positive attitude amidst increased and unanticipated additional work
22.	Maintains composure during difficult interactions with colleagues
23.	Maintains confidentiality of the cadaver information in public areas
24.	Maintains thoroughness and attention to detail
25.	Makes valuable contributions during difficult interactions with colleagues
26.	Offers advice when appropriate
27.	Reacts appropriately to other’s lapses in conduct and performance
28.	Requests help when needed
29.	Responds appropriately to help a distressed or impaired colleague
30.	Serves as knowledge or skill resource for others
31.	Solicits and values input from colleagues when appropriate
32.	Does extra work when appropriate to help the team
33.	Teaches and emphasizes tenets of professionalism when appropriate opportunities arise
34.	Upholds ethical standards in research projects and other scholarly activities

Main attributes and behaviours characterizing professionalism

The most important discussions of professionalism are related to the questions of **how** to implement and enforce professional standards, **where** and **when** to implement them. As a journey, professionalism must be embedded in every course and activity at a medical school. The first years of medical school, could contribute to the development of basic elements of professionalism, necessary to continue medical training in the subsequent years (Table 1) [8-14]. Professionalism comprises many attributes and behaviours:

Subordinate one's own interests to the interests of others

The primary trust in medicine is helping others. "Others" is not restricted to patients, but also means fellow men.

Anatomy courses offer an ideal framework to begin a shift from a competitive to a collegial learning environment, which in turn will later translate to a collegial practice environment. Up to this point in time, each student in his undergraduate years has been for the most part, working independently, trying to keep his grade point average up so as to be competitive for medical university. Now, because that goal has been accomplished, the student must not only work toward their own academic success. They also have an opportunity to work with their assigned partners at the dissection table to ensure the success of the entire group [4, 15-18].

Teaching anatomy is inevitably intensive, requiring a great deal of faculty dedication and time. Anatomy faculty obviously subordinate their own interests to meet the learning needs of their students. This is evident from the time devoted by the faculty to intensive instruction and personal contact that characterize anatomy courses. In their commitment to the students, the faculty are good role models for one critical attribute of professionalism [23, 24].

Working with others

A Gross Anatomy laboratory is a place to learn and implement an ideal of professionalism: working as member of a team. To contribute for accomplishing the goal, each student must not only work for their own academic success but

collaborate with partners at the dissection table to ensure the success of the entire group. This is not an easy task. In some cases this requires a totally new approach to studying. Thus, while students had been focused on their own achievements only, now they have to change their thinking and become involved in helping others. The dissection group is a microcosmos of society comprised of individuals with different backgrounds and skills. Students need to develop new learning and collaboration skills with their colleagues in the group. Study habits of most students have to be altered. Being thrown into a group of strangers forces one into position of actively pursuing the establishment of new working relationships [19, 20, 21].

The instructor can help students with developing a plan to work in concert with each other and in establishing new working relationships. As members of the group are progressing through the material leading up to an examination, they need to be willing to share information which other members of the group may not have. Students should be sensitive to the needs of others. The purpose is to urge cooperation between members of the group in order to learn the material. In addition, exercises can be designed during which students of the laboratory group work together to achieve one goal. The aim is to guide the students during dissections in their search for something in the cadaver that is different or abnormal, possibly an anomaly or a surgical procedure performed on the individual prior to death. The students identify the finding and prepare a short paper or a five-minute presentation, in which they describe the medical aspects and clinical significance of the item. This again encourages everyone to work as member of a team [22, 23].

Social responsibility

The privilege of human dissection is a gift, not only from an individual donor, but also from the society that sanction human dissection as a fundamental component of medical education.

The first and second year students have opportunity to demonstrate social responsibility. They can take part in organizing and conducting a memorial service at the end of the dissection courses as an expression of appreciation to their patients (cadavers) for their roles in serving as teachers. This memorial service is an open expression of professionalism by the class (Figure 1).



Figure 1. Memorial service in the Department of Anatomy, Medical University of Pleven.

To teach is an awesome responsibility for faculty, who must recognize the social contract they hold, through their university, to impart knowledge to new generations of students, just as they were privileged to receive knowledge from their predecessors [25-27].

Evince core humanistic values

Honesty, integrity and trustworthiness are among the humanistic values that must characterize the practice of medicine. Students must demonstrate the highest standards in honesty in their dealings with peers and faculty. They must be worthy of the trust already implicit in their admission to medical school [28, 29].

The intense nature of the learning environment in anatomy offers numerous opportunities for faculty to show other humanistic values, such as empathy and compassion to the students as they struggle to adjust to the educational and emotional demands of medical school [30, 31].

Accountability for themselves and for their colleagues

From the onset of their medical education, students must become more accountable for their own learning and so begin the acquisition of self-directed, life-long learning skills that will enable them to stay current with rapidly advancing biomedical knowledge. The learning environment of anatomy should equip students with various mechanisms by which they become progressively more accountable for their own learning and for the learning of their colleagues [11, 32].

Learning strategies such as “reflective learning” begin to play an important role in

curriculum design. Reflective practice allows learners to think critically and to engage themselves in reflection upon their activities, which result in improvement of their performance [33-35]. The true reflective process provides the opportunity to keep an open mind about “what”, “how” and “why” things are being done [4, 35]. Within the context of anatomy, open-mindedness may be used in clinical anatomy teaching, which encourages students to learn through discovery in dissection, where observation is used as an important tool in theoretical understanding [34, 35].

There are many ways through which reflective learning in anatomy may be achieved. Integrating the clinical material with basic anatomical concepts preserves the content of the course but changes the experience of a student in learning. Key strategies can be applied, through which the faculty can help students to get involved in reflective exercises, thus promoting professionalism. Learner-centred approaches such as problem- and team-based learning, allows for a shift from didactic instruction to self-oriented learning. Dissection provides an opportunity to reflect on the “real” human body enabling them to integrate new knowledge and individualising dissection experience within the existing cognitive framework and skills.

Anatomy faculty involved in teaching cadaver dissection-based anatomy has the solemn duty of building professionalism in the medical student. In the lab, the anatomy instructor and the cadaver are the main source of knowledge. There is enough to learn from the donor's act, but there is even more to learn from the behaviour of the faculty while teaching, manipulating, or referring to the cadaver or parts of it; ideally expressed in gestures of respect, compassion, excellence, care, knowledge and responsibility. The cadaver represents the extreme dependence of a patient on his doctor because it can not defend itself from any potential abuse of power. This provides moral and ethical challenges for the student, who could choose (for example) to leave the cadaver face and genitalia uncovered, or expressing demeaning comments. The cadaver should be treated as a patient [36, 37].

Faculty are accountable for ensuring that the students, individually and as a class, are gaining an appropriate and functional comprehension of the complex anatomic knowledge that will underpin so much of their later learning and practice [9, 10].

Continuing commitment to excellence

Professional work requires a specialized body of knowledge and expertise. Commitment to excellence is a commitment to keep abreast of rapid changes in biomedical science and practice. For basic science students, this is reflected in a ready commitment to their own learning, to ensure they acquire a firm foundation to build further knowledge in clinical clerkships and throughout practice.

For anatomy faculty, a commitment to excellence can be demonstrated by showing students how they have continued to acquire knowledge not only in their own discipline, but also in other relevant disciplines [14, 17].

Commitment to scholarship and to advancing the field

All professionals have a responsibility to advance knowledge in their field. Medical students can best demonstrate a commitment to scholarship by striving to effectively integrate and apply what they have learned in various courses on patient problems in clinical settings. By advancing and integrating their own knowledge, they will learn how to advance the body of knowledge in medicine. Formal participation in a research project also promotes a commitment to scholarship. The opportunities for student research should be fostered and encouraged [21].

Faculty best exemplify their commitment to scholarship by conducting research and sharing the results with others in presentations and publications [1, 26].

Deal with high level of complexity and uncertainty

Medical education is believed to be education for uncertainty. Physicians practice in an environment characterized by complexity and uncertainty. Dissections must often be made when information at the moment is incomplete and the best course of action hence uncertain. Developing a degree of comfort with uncertainty is one of the major transitions that must occur during medical school years. In anatomy, students confront more information than they can possibly comprehend and absorb, which is daunting. Students recognize the importance of information and fear that failure to memorize every morsel of anatomic knowledge will somehow cause them to miss a critical sign in a

sick patient. Learning how to function in a situation a comprehensive and complete body of knowledge is impossible can help students learn how to deal with uncertainty. This will be an important outcome of their experiences in anatomy [8, 15].

Being a model for their students to emulate, tutors must remain sensitive and responsive to the complex emotions – vulnerability and anxiety that the students might be feeling and show current action in the students' interest [19, 38, 39].

Responsibility for actions and decisions

In the Gross Anatomy laboratory students are assigned dissections which must be completed within the prescribed time. Individual students can not shirk their responsibilities and let someone else do all the work. The anatomy instructor must judge the contribution of each student to the work done.

The ability to reflect dispassionately is an important attribute of professionalism. In the dissection room, students quickly learn either to distance themselves or to develop some insights into and empathy toward their “first patient” – cadaver.

Since Gross Anatomy faculty are the first to whom incoming medical students are exposed, they have the opportunity to serve as mentors. The extensive student-faculty contact time makes the Gross Anatomy laboratory the ideal forum for screening individuals to evaluate the expression of professional values they brought with them to medical school [34, 38].

How is the expression of professionalism to be evaluated in Gross Anatomy laboratory?

It is imperative to initiate the students into the meaning and responsibilities of professionalism on the first day of class. Expectations of the faculty need to be made clear. The aim is to not only provide conditions for the academic “survival” of students but also demonstrate evidence of professionalism on a daily basis. The students also need to know that this professionalism is continuously evaluated.

Anatomy faculty should be committed to evaluating characteristics of professionalism. By visiting dissection tables either for answering and asking questions, faculty can monitor and evaluate work, ethic professional interrelationships and overall attitudes of the members of the group throughout the duration of the course [1, 11, 18].

Conclusions

With the advance of technology, primacy of economy and growing individualistic notions, the existence of the most basic and fundamental value that doctors all over the world are presumed to possess – medical professionalism – is being challenged tremendously.

For most medical students, professional growth is initiated during the first year of medical studies. The anatomy course serves as a basis to explore issues related to critical thinking and professionalism. Students must recognize the fact that their attitudes and values are just as important as the acquisition of skills and knowledge.

Faculty are powerful role models for both positive and negative behaviours. Because we spend so much time with the students in the laboratory we, as gross anatomists, probably come to know the students better than members of any other academic discipline in medical school. Therefore, we are in a position to be able to introduce medical professionalism and to develop instruments to evaluate professionalism. We must convince the students that achieving high standards of professionalism is just as important as achieving high grades. There is one important quality that anatomists must possess, if this goal of highlighting professionalism is to be achieved. The faculty need the respect of the students, which can be achieved by being knowledgeable in the field, by having the ability to teach effectively and by treating students as equals. Students remain sensitive to all discrepancies between what is said and what is observed.

It is important to evaluate professional behaviour of students as early as possible, so that we can perform interventions which, if successful, can lead to changes in attitudes. This is the reason why we intend to implement a project for introduction and assessment of the professionalism during the preclinical education of medical students.

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