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Teaching Communication Skills on the Surgery Clerkship

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***Abstract* - Background**: Physician communication skills, linked to important patient outcomes, are rarely formally addressed after the pre-clinical years of medical school. We implemented a new communication skills curriculum during the third year Surgery Clerkship which was part of a larger curriculum revision found in a controlled trial to significantly improve students' overall communication competence.

Description: In three 2 hour workshops students, learned to address common communication challenges in surgery: patient education, shared decision-making, and delivering bad news. Each 2 hour, surgeon facilitated session was comprised of a 30 minute introductory lecture, a 15 minute checklist driven video critique, a 15 minute group discussion, a 45 minute standardized patient (SP) exercise with feedback from the SP, peers, and faculty member, and a 15 minute closing summary. To date, over 25 surgery faculty have been trained to conduct these sessions. In an end-of-clerkship survey, students reported on skill changes and assessed the curriculum's educational effectiveness.

Evaluation: A survey was completed by 120 of the 160 (76%) third year students who participated in the curriculum. Fifty-five percent of students reported improvement in their communication skills and ability to address specific communication challenges. Students were satisfied with the amount and quality of teaching.

Conclusions: Communication skills teaching can be implemented in the surgery clerkship, and surgeons are particularly well suited to teach about patient education, discussing informed consent and shared decision making, and delivering bad news. Structured case-based sessions are acceptable to, and improve the self-assessed skills of, surgery clerkship students. Faculty development geared toward such sessions has added benefits to educational activities in a clinical department overall.

Physicians' communication skills are linked with important patient and physician outcomes.[1] These outcomes include physician and patient satisfaction,[2] patient participation in care and adjustment to illness,[3] important clinical markers of health,[4,5,6,7] and malpractice liability.[8] Given the nature of their practice, surgeons should have particular expertise in conducting informed consent/shared decision making conversations with patients about complex procedures. One study comparing primary care physicians with surgeons showed that surgeons spend more time emphasizing patient education and counseling.[9] Giving bad news and requesting permission for autopsy or organ donation are common and challenging experiences for surgeons.[10] Medical schools have a responsibility to prepare trainees for these situations, and there is a growing appreciation for the central importance of communication skills to effective care. In response, major leadership organizations in academic medicine have challenged medical schools to enhance curriculum and evaluation of this set of core clinical skills.[11,12]

The majority of medical schools have curricula in place to answer the call for more effective teaching of communication skills.[13,14,15] At most institutions in the United States, this subject is presented in the pre-clinical years of the medical school curriculum and is taught by non-physician behavioral scientists, psychiatrists or primary care physicians.[13] Typically there is a significant interval between the teaching of patient-doctor communication and the clerkships where students are challenged to conduct more complex communication tasks with critically ill patients. At our institution, as in many others, there was little formal teaching and limited direct observation and feedback on these skills during the clerkship year. When students did learn about communication skills, it was too often from the least

experienced, most stressed clinicians: housestaff and junior faculty. Students rarely had the opportunity to observe experienced faculty communicating with patients and families. Therefore a curriculum was needed to teach surgical clerks communication skills, incorporate experienced faculty role models, and emphasize the clinical relevance of communication to the practice of surgery.

The curriculum reported below is part of a 3 medical school collaborative educational intervention with the goal of improving the communication skills of physicians through enhancement of curricula for medical students during the clinical years.[16] The effectiveness of the project was demonstrated in a controlled study using a 10-station, performance-based, standardized patient rated objective structured clinical examination (OSCE). Pre-post clerkship year OSCE score differences were compared between a cohort of students (n=138, randomly selected; 38% of the class of 2001) receiving the usual curriculum and that of the intervention cohort (n=155; 42% of the class of 2002) receiving an enhanced clerkship communication skills curriculum. Adjusting for baseline differences, students exposed to the intervention significantly outperformed those in the comparison group on scores for the overall OSCE (5.1% difference, p<.001), relationship development and maintenance (5.3% difference, p<.001), organization and time management (1.8% difference, p<.001), and subsets of cases addressing patient assessment (6.7%, p<.001) and negotiation and shared decision-making (5.7% difference, p<.001). These differences were found at each school although they varied in magnitude.[17] Given that it is not yet clear what constitutes an empirically meaningful effect size in communications assessment, we evaluated this using Cohen's approach,[18,19] demonstrating a large effect size for overall OSCE score (Cohen's d=0.90, suggesting that membership in the intervention group accounts for 20% of the variance in performance score). To enhance the validity and generalizability of the evaluation, the curriculum teams that developed the intervention were blinded to the specific content of the 10-station OSCE.

At New York University School of Medicine our communication skills curriculum development team (AK, RJ, MS) negotiated and worked individually with the directors of the seven required clerkships to craft communication skills educational activities that would fit the unique resources and reinforce clerkship relevant clinical content. The goal was to implement a curriculum that was seamlessly integrated into each clerkship. As a result of these efforts, after completion of the 7 required clerkships, an NYU student had 32 new hours of substantive and varied communication skills activities. Table 1 summarizes the content covered and educational strategies used, teacher to student ratio, and time allocated to new clerkship communication skills curriculum within each clerkship.

Table 1: The NYU Clerkship Communication Skills Curriculum. Total 32 hours.

Clerkship	Clerkship Length	Content Covered in the Curriculum	Educational Strategies Used	Teacher / Student Ratio	Hours Spent in Communication Skills Activities
Medicine	10 weeks	• Alcoholism • Cultural Competency • End-of-life Care • Difficult Patients • Clinical Reasoning	Bedside Rounds, Structured materials, Direct Observation and Feedback	1:3-4	7.5
Surgery	10 weeks	• Patient Education • Bad News • Informed Consent and Shared Decision Making	Small Group Seminar, Videotape Review, Practice with SP, Direct Observation and Feedback	1:8-10	6
Ob-gyn	10 weeks	• Sexuality • Domestic Violence • Genetic Counseling • Patient Education	Small Group Seminars, 3 Case SP rated OSCE	1:10-15	6
Neurology	10 weeks	• Dementia • Headaches • Seizure	Group Objective Structured Examination with SP's	1:8	2
Ambulatory Care	10 weeks	• Behavior change	Small Group Seminar with Role Play	1:30-35	1.5
Psychiatry	10 weeks	• Hostile/Violent Patient • Seductive Patient • Depressed /Suicidal • Anxious Patient	Small Group Seminar with Role Play and Practice with SP, Direct Observation and Feedback	1:6-8	6
Pediatrics	10 weeks	• Asthma Patient Education • Developmental History • Adolescent	3 Case faculty observed OSCE and debriefing	1:1	3

To our knowledge there are no published reports of explicit communication training for students conducted within the core surgery clerkship, although others have taught relevant topics in the pre-clinical years. For example, pre-clinical students are taught the process of obtaining informed consent with lectures, small group discussions, model videotape interviews, or interactions with an actor trained to portray a patient. [20,21]

In this paper we describe how the Surgery Clerkship communication skills curriculum was developed, implemented, and evaluated.

METHODS

Curriculum Development and Implementation Process - We used a systematic curriculum development process[22] in which we conducted both a general and targeted needs assessment specific to clinical clerks on surgery, specified goals and

Table 2. The Surgery Clerkship Communication Skills Curriculum: Goals, objectives and description of demonstration and practice cases for each of 3 workshop sessions. Videotaped Demonstration cases featured senior surgeons conducting the interview. Cases for Practice role play were written cases with detailed instructions for students taking the surgeon role.

Session	Goals	Objectives	Video Taped Demonstration Cases	Cases for Practice Role Play
Patient Education	Students will become familiar with basic principles of educating patients about surgical procedures and post-op care.	By the end of the session students will: • Be able to list the variety of ways that surgeons educate patients: preparing a patient for surgery, discussing post-op care, engaging in informed decision making (including informed consent), delivering a diagnosis and/or discussing an outcome. • Describe the process of effective education (assessing needs, delivering clear and concise information and assessing understanding). • Analyze an example of a patient education session using a checklist. • Practice using the recommended skills (see checklist) and receive feedback. • Appreciate the importance of effective patient education as a crucial part of patient care.	• Discussing treatment options with a 42 year old woman with cholelithiasis.	• Discussing surgical treatment options with a 65 year old man with colon cancer (Duke's Stage B).
Obtaining Informed Consent/ Shared Decision Making	Students will be able to conduct an effective and efficient informed consent discussion.	By the end of the session students will: • Define both the legal and ethical components of informed consent. • Know how to obtain information regarding the indications/ risks/benefits/alternatives of the procedure. • Describe the elements of shared decision making. • Analyze an informed consent discussion. • Practice the recommended skills in a role-play and receive feedback. • Accept and accommodate each individuals desired role in the decision making process. • Appreciate the positive outcomes of the informed decision making process.	• Discussing endarterectomy with a 65 year old man with asymptomatic carotid stenosis. • Discussing son's slipped capital femoral epiphysis (SCFE) with a parent of 13 year old	• Discussing the possibility of surgical repair with a 45 year old man with an inguinal hernia. • Discussing lumpectomy with a 42 year old woman w/ positive breast biopsy. • Discussing knee replacement with a 50 year old man/woman with chronic knee pain.
Delivering "Bad News"	Students will know the basic elements of delivering bad news to patients.	By the end of the session the students will: • Understand that "bad news" is determined by the individual patient. • Understand how to prepare oneself to give "bad news" (attend to one's emotions, face-face when possible, private, sufficient time, have all necessary information, discuss possible outcomes with patient prior to testing, include significant other). • Assess a physician demonstrating delivering "bad news". • Practice delivering "bad news" and receive feedback from faculty and peers. • Appreciate the importance of delivering "bad news" effectively.	• Informing wife of endarterectomy patient about an intra-operative stroke • Discussing misalignment, and need for surgical replacement with parent of SCFE	• Delivering results of lumpectomy with a positive lymph node to a 42 year old woman. • Discussing existing infection with 50 year old s/p knee replacement.

learning objectives, planned educational strategies, and implemented the curriculum.

We began by performing a needs assessment and formulating goals and objectives. First, we generated a comprehensive list of communication competencies that practicing physicians should possess. [16] The list of competencies was derived from a literature review,[17] surveys, and focus groups with medical faculty and students at the 3 collaborating schools. In addition, we reviewed the relevant literature on surgeon-patient communication, and conducted structured focus groups with students (20 students/2 groups) completing the Surgery Clerkship to determine which communication skills they felt were best taught during the surgery rotation.

The Surgery Clerkship chose to cover 3 communication topics: Patient Education, Obtaining Informed Consent/Shared Decision Making, and Delivering Bad News. These topics were decided upon by the clerkship director (DR) in collaboration with the physician curriculum development team of the Macy Initiative (AK, RJ) and were based on the needs assessment. Goals, objectives, and content of the clinical cases used in each session are presented in Table 2. Case content was designed to review clinical management of some of the most common

surgical problems (i.e. cholilithiasis, colon cancer, carotid stenosis) seen by students and to allow surgeons from different specialties (general, vascular, and orthopedics) to teach communication skills in the context of familiar clinical material.

The educational strategies were designed to present communication challenges in the context of clinical cases. The content of these sessions were sufficiently important that three 2-hour sessions were incorporated into the daily lecture schedule. The sessions reinforced basic communication skills as described in the Macy Model for Doctor Patient Communication[16] and in relevant communication skills texts.[23,24,25,26] Senior surgeons were recruited to participate in the development of the curriculum materials which included videotaped interviews demonstrating the communication skills, clinical scenarios for role play, and appropriate readings. Teaching methods included a mix of brief didactic, observation, and practice with feedback and were chosen to maximize the learning of communication skills in context of the relevant clinical material.[27] We then conducted extensive faculty development.

The communication curriculum was implemented on the following schedule. Each session began with a 30 minute lecture to review the relevant knowledge and core communication skills. Then, the group of students, guided by a checklist of behaviorally specific communication skills items, spent 15 minutes analyzing and critiquing a videotaped example of a senior surgeon conducting this communication competency (Table 3). After a 15 minute small group discussion of the core skills, students were observed conducting the communication skill with a standardized patient (SP) and received feedback from peers, the faculty member and the SP (45 minutes). In the final 15 minutes, the teacher led the group in summarizing the lessons learned both about communication skills and the clinical content of the cases. Data about individual student performance were not provided to the clerkship directors and therefore did not influence final clerkship grades.

Overall, approximately 25 surgical faculty members were taught to conduct these sessions using a number of strategies (e.g. small group seminars, one-on-one preparation sessions, co-teaching) in order to accommodate faculty schedules. In addition to familiarizing faculty with the conceptual model used to teach about communication skills and the relevant knowledge, we addressed specific teaching skills which included small group facilitation, running a review of videotaped interview, setting up and debriefing a role-play, and giving effective feedback.

Table 3. Communication Skills Checklists: A behaviorally specific list of skills drawn from the Macy Model of Doctor Patient Communication as well as other sources (e.g. Braddock el al.)[33] used to guide and reinforce learning of skills.

Core Communication /Patient Education Skills	Done	Partly Done	Not Done
Open Introduce and orient the patient to the visit *"We're going to spend the next few minutes discussing..."*			
Patient Education Ask about patient concerns and prior knowledge. *Tell me what you know about…"* Tell information clearly -- Address patient's needs and concerns re: clinical issue -- Use language the patient can understand. Ask for understanding and encourage additional questions.			
Negotiate and Agree on Plan			
Elicit and Understand Patient's Perspective			
Use of Relationship Building Skills Communicate non-judgmental, respectful and supportive attitude. Accurately recognize emotion and feelings. Respond to emotions appropriately (e.g. Partnership, Empathy, Apology, Respect, Legitimize, Support (PEARLS)).			
Manage Flow			
Close			

Informed Consent/ Shared Decision Making Elements[33]	Done	Partly Done	Not Done
Discussion of the patient's role in decision making.			
Discussion of the clinical issue or nature of the decision.			
Discussion of the alternatives.			
Discussion of the benefits and risks of the procedure.			
Discussion of uncertainties associated with the decision.			
Assessment of the patient's understanding.			
Exploration of patient preferences			

Delivering Adverse Information	Done	Partly Done	Not Done
Prepare-have information, privacy, significant other present, etc.			
Assess Readiness-ask patient or forecast news. "I Have some difficult news".			
Give Information-Tell basic information clearly. Don't try to give too much at once.			
Check the patient's response-Give time and opportunity to respond. Answer patient questions.			
Follow-up-schedule timely follow-up, contact.			

Evaluation of the Curriculum - In addition to the pre-post controlled performance based assessment of the entire curriculum mentioned above,[17] the Surgery Clerkship curriculum was evaluated at NYU using an end-of-clerkship survey. The major questions assessed with the survey were:

1. How much did students' self-perceived general communication skills change during the clerkship?
2. How much did students' self-perceived, surgery-specific communication skills change as a result of the new curriculum?
3. To what extent did the curriculum meet students' educational needs with respect to communication skills training, time for feedback and direct observation, and quality of teaching? Did they think the time and effort were appropriate?

To answer these questions, an anonymous, cross-sectional survey was administered at the end of each rotation following the final written exam. A 3 page questionnaire was developed that included items and scales designed to answer the above questions.

Students were asked to rate both how much the clerkship changed their core communication skills on a five-point scale (declined greatly (1) to improved greatly (5)) and the time and effort spent on communication skills during the clerkship on a five-point scale (not enough (1) to too much (5)). Compared to traditional pre-post self-assessment ratings, asking students to assess pre-post change retrospectively is a more sensitive and valid measure of the impact of educational interventions aimed at improving skills because it accounts for a shift in internal standards for assessing a skill not known to be lacking until participating in a seminar on the subject. [28,29]

Students rated the quality of the teaching for the communication activities on a four-point scale from 1 = poor to 4 = excellent. The subjects were all students in the NYU Class of 2002 during their clinical clerkship year. This class was the experimental cohort for the controlled trial of the Macy Initiative intervention, the first implementation year for the new curriculum. The clerkship evaluation was exempted from informed consent by the NYU Institutional Review Board.

RESULTS

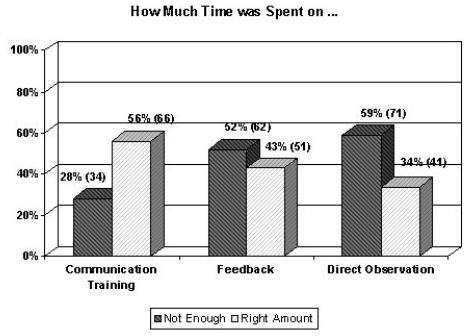
In the first year of the new curriculum, 160 students completed the workshops which were scheduled into their educational time, representing 95% of the third-year students. A total of 121 students completed the end-of-clerkship surveys following four rotations of the Surgery clerkship. This is a 76% response rate of all eligible students. Overall, students perceived that their general communication skills improved more than their clerkship-specific skills (Table 4) compared to before the clerkship. More than half reported they still wanted more feedback from attendings on doctor-patient communication skills and more direct observation by attendings while interacting with patients.

When asked about the time and effort spent specifically on communication skills in the workshops, most students felt they received just the right amount of communication skills training during the clerkship (Figure 1). Specifically, the following items were rated as good or excellent by the majority (range on items 56%-96%) of students: teacher enthusiasm, teacher preparation, teacher organization, clarity of the goals, usefulness of seeing senior surgeons with a patient, the integration of the workshops into the clerkship, and the value of the workshops in meeting their educational needs.

Table 4: Change in student's self-perceived communication skills.
% (N) reporting improved or greatly improved, did not change, or declined on end-of-clerkship survey. The stem for each item read "Compared to before I began the clerkship my ability to …"

	Improved (4 and 5)	Did Not Change (3)	Declined (1 and 2)
Core Communication Skills (n=121)			
Communicate with patients in general	55.3% (67)	31.4% (38)	13.3% (16)
Assess a patient's problem and situation	87.6% (106)	11.6% (14)	0.8% (1)
Organize an interview and manage time	71.1% (86)	25.6% (31)	3.3% (4)
Educate and counsel a patient	66.1% (80)	29.8% (36)	4.1% (5)
Negotiate and share decision-making with a patient	46.3% (56)	47.1% (57)	6.6% (8)
Develop and maintain a relationship with a patient	52.9% (64)	33.9% (41)	13.2% (16)
Clerkship-specific Communication Skills (n=117)			
Educate a patient about a surgical procedure	57.2% (67)	40.2% (47)	2.6% (3)
Use "ask-tell-ask" to educate a patient	53.9% (63)	43.6% (51)	2.6% (3)
Respond to patient's emotional reaction to adverse information	53.0% (62)	42.7% (50)	4.3% (5)
Prepare to discuss adverse information with a patient	53.0% (62)	43.6% (51)	3.5% (4)
Define components of informed consent	50.4% (59)	46.2% (54)	3.5% (4)
Obtain informed consent from a patient	50.4% (59)	47.9% (56)	1.8% (2)

Figure 1. Students perceptions of time and effort spent on communication skills training as reported in the end-of -clerkship survey (n=120).



DISCUSSION

Surgeons have an important role in formally teaching communication skills to medical students. We have shown that this can be done in an educationally meaningful manner. We developed and implemented a clinically integrated communication skills curriculum in the Surgery Clerkship that was satisfying to most students, improved their self-perceived knowledge and skills (retrospective pre-post self-assessment ratings), and provided opportunities for faculty to directly observe and give feedback to students although students still wanted more. Critical to this success was engaging

surgery faculty role models in all aspects of the process of curriculum development and implementation, extensive faculty development, and using an evidenced based model of effective doctor-patient communication to teach these skills in a clinical context.

The Surgery Clerkship communication skills curriculum reported here accounted for 18% (6 out of 33 hours) of a comprehensive clerkship-wide effort which was shown to improve students' communication skills performance. We are unable to directly assess the impact on student performance of the specific surgery clerkship communication curriculum as a consequence of a "firewall" between the curriculum development team and the evaluation team, meant to maintain the integrity of the performance based evaluation. However, there was improvement in the particular skills sets we addressed only in the surgery curriculum (i.e. Shared Decision Making).

While most learning within the clerkship continues to take place in daily bedside work and in the operating room, this study endorses the role of well designed sessions to ensure students learn core material. Students appreciated the clear learning objectives, organized sessions, a chance to view video of an experienced surgeon conducting an interview with a patient, the chance to practice with standardized patients, and the discussion of common general surgical cases.

Implementing this curriculum had a number of additional important outcomes. The faculty development process we used for this process had a "spillover" effect in that it served to prepare faculty to do similar activities with housestaff and in continuing medical education activities. It has provided teachers of surgery with an effective model to teach communication skills and other aspects of professionalism to students in other venues. In part, the ability to conduct these activities encouraged the department leadership to engage in a complete overhaul of the educational activities in the clerkship, including establishing explicit and detailed goals and objectives, implementing a more rigorous and performance based student assessment, standardizing lectures, and developing novel computer based learning modules.[30,31]

Challenges

We encountered a number of challenges in implementing this curriculum. While we put a great deal of effort into faculty recruitment and development to ensure a well-trained pool of faculty to teach this curriculum (an effort reflected in students' appreciation for the quality of the teachers), maintaining faculty involvement was a constant struggle. Unambiguous support from departmental leadership was invaluable to deal with this problem. Also, some housestaff presented a negative role model to students. Since students spend most of their time observing housestaff with patients, this potentially threatens the effectiveness of our formal teaching, making it seem unrealistic in day-to-day clinical work. To address this hidden curriculum,[32] we have already conducted activities for surgery housestaff that teach students using almost identical strategies described in this paper to cover the attitudes, knowledge and communication skills.

We have had to continually reassess the value of spending this amount of time and energy teaching communication skills during the clerkship. Since we first began this project in 2002 the Surgery Clerkship at NYU has gone from a 10 week to an 8 week rotation and 1 of the 3 communication skills seminars (Informed Consent/Shared Decision Making) described has been moved from the Surgery Clerkship into a pre-clerkship orientation week. Further evaluation of this curriculum is needed to see if these skills transfer to other experiences (other clerkships or to residency) and if students can apply the skills they have learned in real world situations. We believe that involving so many role models in our program and integrating the communication skills learning with core clinical material explicitly emphasizes the value of such skills to practice. This may have interesting and important benefits; such as a positive impact on student and resident attitudes toward the importance of communication skills and ultimately improved doctor patient relationships and better patient outcomes.

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