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DEVELOPMENTS

An Acculturation Curriculum: Orienting International Medical Graduates to an Internal Medicine Residency Program

Joann L. Porter

Veterans Administration Medical Center, Omaha, Nebraska, USA

Theresa Townley, Kathryn Huggett, and Rugmini Warriier

Creighton University Medical Center, Omaha, Nebraska, USA

Background: The number of International Medical Graduate (IMG) applicants to residency programs has increased steadily over the past decade. Despite high motivation and significant medical knowledge, differences in training and cultural expectations can create knowledge gaps and influence how IMGs relate to patients and staff. This contributes to increased opportunities for medical errors, patient dissatisfaction, and frustration among colleagues. **Description:** To improve this transition we introduced a required, 2-week precourse for IMGs entering our program. The curriculum focused around the Accreditation Council for Graduate Medical Education core competencies. **Evaluation:** Participants reported knowledge gains and rated favorably didactic sessions and small-group activities. Program directors and other key stakeholders reported positive experiences with the precourse, especially the reduction in transition stress and missed work time in July. **Conclusion:** An intensive precourse for IMGs can attenuate transition stress and increase knowledge of core medical skills and competencies.

International Medical Graduates (IMGs) compose a significant portion of the U.S. physician workforce. In 2004, approximately 24% of physicians in the United States were IMGs. In Internal Medicine alone, 30% were IMGs. An even larger percentage of IMG physicians are seen in Health Profession Shortage Areas, caring for urban and rural underserved populations. In the 2005 match, Internal Medicine matched 44.2% (2,048) international graduates into categorical positions.¹ IMGs can have more patient care problems in the beginning of their intern year due to distinctly different undergraduate training for IMGs when compared to United States Medical Graduates (USMGs).³ This has become more apparent with the new emphasis on the learning objectives related to the Accreditation Council for Graduate Medical Education's core competencies.

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Address correspondence to Theresa Townley, Creighton University Medical Center, 4628 South 25th Street, Omaha, NE 68107, USA. E-mail: theresatownley@creighton.edu

IMGs constitute a diverse group of physicians with a diverse history of training and experience.⁴ In most countries outside the United States, the structure of medical school consists of a 6-year training system starting immediately after high school. Undergraduate medical education courses typically extend for a period of 4½ years. Clinical medicine is taught in the remaining years of the program. The last year of medical school consists of a rotating internship in which students rotate through Surgery, Internal Medicine, and other disciplines. After completing this internship, the students receive their medical degree and may then work as general practitioners or enter residency.

During the clinical years, medical students evaluate designated patients in hospitals and clinics, and this focused experience ensures that students become highly skilled in physical exam and diagnosis. Although the principles of differential diagnosis and treatment plans are thoroughly discussed, students may not have had the opportunity to follow patients throughout the course of their illness or even through the course of their hospitalization. Students in these programs seldom round in the traditional resident, attending, and student team. In addition, they may be unaware of what is actually required in the day-to-day management of a patient and the process by which a patient moves through his or her hospitalization. Some IMGs complete an additional compulsory rotating internship, but they may be so occupied with patient escort or phlebotomy (due to lack of ancillary staffing) that they have little time to learn day-to-day medical management.

In addition, due to resource limitations, teaching in many settings focuses on a thorough history and physical instead of more costly tests. Although these skills certainly remain the most valuable tools of an internist, an IMG may be less experienced utilizing technological advances. Even management of something considered very routine in the U.S. health care system, such as writing for IV fluids with balance of electrolytes and input/output, is commonly not covered.

Opportunities to examine women are rarely available, especially to male medical students. Generally, with respect to issues of reproduction, only women examine women and only men examine men. In addition, in many countries, preventive health pelvic exams are not routinely performed.

Expectations for authority in the learning environment also result in different approaches to teaching and learning.⁵ IMGs are expected to be modest and unassuming during training. Interactions with faculty are very formal. Practice-based management skills of analyzing practice experience and performing practice-based improvement activities would be considered disrespectful in many international systems.

Similarly, IMGs trained in other countries typically have minimal collegial interaction with nursing or other ancillary staff. Training of ancillary staff is far different, often with far lower educational expectations for many nurses than in the United States. Social workers, physical therapists, and occupational therapists are also not common in resource poor countries. Lack of these interactions can lead to a deficit in the systems-based practice skills necessary to partner with health care managers and other health care providers to assess, coordinate, and improve health care. As a result, knowledge of how these activities can affect system performance is very limited.

In many countries where IMGs are educated, the concept of patient autonomy and patient involvement in decision making is rare. Doctors often practice in a paternalistic manner, and it would be unusual for patients to question their authority. In addition, students rarely have the opportunity to model the way in which an attending discusses a disease with a patient or deals with the range of emotions that may occur over the length of a serious illness. This creates little or no opportunity to learn and discuss ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and ethical business practices.

METHODS

The precourse to promote the acquisition of U.S.-specific medical topics⁶ was developed in 2005 for IMGs entering the Internal Medicine and Medicine/Pediatrics residency at Creighton University. Creighton University has eight university-based residency programs including Internal Medicine and Medicine Pediatrics. The Internal Medicine program accepts 15 categorical residents each year and 8 preliminary residents each year. The Medicine/Pediatrics residency matches 4 residents a year. For the 2005 match in these two programs at Creighton University, there were 11 IMGs who matched, including 8 men and 3 women. Seven were trained in India. The number of IMGs in our Medicine and Medicine Pediatrics programs since the 2002 match is comparable, and this correlates with national trends.⁷ All residents are accepted through the match.

Applicants to the residency program were notified prior to the due date for rank lists for the match that the precourse was mandatory. Participants were not paid and considered to have

observer status. They were covered under the malpractice umbrella, as they were already enrolled in the upcoming residency year, but were not allowed to examine patients. The program did not provide housing, but current IMGs volunteered to help to those in need.

The precourse curriculum was developed following a review of the literature and extensive consultation with faculty and residents. After receiving IRB approval for the proposed evaluation of this initiative, a needs assessment was conducted with both Internal Medicine and Medicine/Pediatrics faculty, along with the respective residency program directors. These faculty members were asked to identify skills and competencies they perceived as lacking in international graduates compared with U.S. graduates. The major medical care deficits identified were skills in gynecologic exams, writing outpatient prescriptions, practical application of EKG interpretation, and writing orders for fluids. Communication competencies identified as deficient were skills in explaining illnesses to patients, occasional poor interactions with nursing staff, and a perceived lack of knowledge of the IMG's due to nonparticipation in dialogue on rounds. These problems occurred despite high criteria for admission to the program.

Focus group discussions were then conducted with current IMG of all years in Creighton's Internal Medicine program. Creighton IMGs identified the following topics for potential inclusion in the curriculum: patient privacy rules, communication with patients' family members, the hierarchy in the medical system (i.e., who to go to with questions), what to expect from ancillary staff, the health care system in the United States, patient presentation on rounds, and interaction with medical students on rounds. Suggestions from these interviews were used to compile and establish priorities for the curricular objectives.

The curriculum was developed and revised to reflect the suggestions generated during the interviews and focus group discussion. A typical day in the orientation for the resident consisted of a half-hour morning report conducted on practical issues such as prescription writing, followed by the morning spent rounding with a team in General Internal Medicine. The afternoon consisted of practical sessions that used hands-on experiences (such as gynecological exams and writing orders and history and physicals) along with panels with discussions on selected topics. Lunch was provided each day so that the participants could socialize and share lunch together without any scheduled work.

The course was designed around the core competencies delineated by the Accreditation Council for Graduate Medical Education Outcome Project.⁹ The unit on the competency of patient care focused on hospital and clinical systems issues that residents need to learn to reduce medical errors. Documentation and order writing were emphasized. Residents viewed a videotape portraying a resident interviewing a patient with diabetic ketoacidosis in the inpatient setting, and this activity was followed by a practical on writing a history and physical (H&P and admission orders). Participants were also taught how to do a discharge summary. A chief resident covered the key elements to a

cross-coverage checkout sheet. There were practicals on writing clinic and inpatient Subjective, Objective, Assessment, and Plan (SOAP) notes and outpatient prescriptions. Each morning was dedicated to inpatient rounds, and residents learned from observing the team approach to patient care. Rounds were always conducted with a team consisting of an attending physician, a supervisory resident, an intern, and two medical students.

The units on medical knowledge focused on skills that had been identified by our faculty and resident content experts. Because of the rigorous criteria for entrance into the residency, IMGs were assumed to have a good medical knowledge base but limited practical experience in some areas, especially those involving more costly patient tests, gynecological exams, and administering IV fluids. One session was dedicated to teaching a review of the administration of IV fluids. Other sessions were designed to review the use of technology, including a practical on reading EKGs and a tour of our cardiology center and the different technologies available there. We also offered supervised pelvic exams on standardized patients, preceded by a lecture on how to correctly perform a pelvic exam and how to protect modesty of the patient.

The unit for practice-based learning and improvement was taught using lecture and role modeling. Sessions covering roundsmanship and the use of computer-based searches were utilized to emphasize the use of evidence-based medicine to create the plan of care of a patient. Sessions on rounding focused on the importance of the entire team to the care of the patient and emphasized how attendings are open to suggestions from each team member even when they differ from their own plan. This demonstrated our own program's culture wherein residents are encouraged to ask clarifying questions and reevaluate the care plan when other information is provided. Prior to the rounds, the residents attended a lecture explaining the expectations and roles of the team.

The interpersonal and communication skills unit focused on strategies for developing effective therapeutic relationships with patients and their families. IMGs currently on our faculty participated in this unit, drawing on their experiences to highlight differences and describe their pathway. Multicultural competency was emphasized.

Systems-based learning sessions examined the intricacies of the U.S. medical system and systems approach to the reduction of medical errors. Residents met representatives from various hospital departments to increase their awareness of the team approach to medicine and the ways in which various departments such as social work or nursing assist in the care of the patient. A panel composed of physicians, nurses, and social workers answered questions from the residents and described the goals of interdisciplinary interaction. Another session covered the structure of the residency program with emphasis on who to contact for either patient-related questions or residency-based issues. A laminated list of contact information was distributed to the residents, and a form that is used for cross-coverage information was reviewed.

Professionalism was emphasized as a driving force behind the quality of the learning environment and patient-centered care. Videos with discussions following were presented on patient confidentiality and patient autonomy. An afternoon was dedicated to topics of professionalism including a panel on end-of-life care issues, an introduction to ethics in the United States and strategies for delivering bad news. During this time, the meaning of Do Not Resuscitate orders were reviewed as well as the process in which these orders are written. The final afternoon was devoted to the exchange of information about the community, housing, transportation, and procedures to obtain a driver's license.

We relied on in-kind contributions of faculty time to pilot the precourse. Most participating faculty volunteered 1 to 3 hr; chief residents spent 20 hr in the program divided between the four of them. Program expenses were minimal and consisted of payment to two standardized patients and daily lunches. In outpatient clinics each IMG shadowed a senior resident seeing their own continuity clinic patients. Practical involving patient histories or order writing were conducted with a simulated patient/resident interview videotape (produced locally), which provided real world experience at a low cost.

RESULTS

To identify baseline competency levels and assess learning of the precourse objectives, a 16-item test of medical knowledge and skills was developed by the precourse directors and administered before and after the precourse. The test covered basic skills such as writing admit and discharge orders and prescription writing. In addition, the use of IV fluids and reading EKGs and basic cross-cover orders were tested. Other questions addressed informed consent, insurance issues, the role of a social worker, confidentiality, Do Not Resuscitate/Do Not Intubate status, and patient autonomy. The nonparametric Wilcoxon Signed Ranks test (two-tailed) was used to evaluate the impact of the curriculum on participants' scores on the test. A statistically significant increase in posttest scores ($p < .05$) was detected for three items, two on discharge script writing and an item on SOAP note definition (see Table 1). A non-significant trend was seen for items pertaining to informed consent and Do Not Resuscitate/Do Not Intubate. Although we were pleased by the improvements observed in knowledge and skills, it should be noted that this preliminary instrument was not formally validated and assessment was also limited by the by the small number of participants ($n = 11$).

Participants completed evaluations after the precourse to assess satisfaction with the curriculum, self-assess competency, and identify areas for change and improvement in the next iteration of the precourse. Measures of overall program quality and evaluation of the faculty and staff who conducted the program indicate the precourse was successfully implemented and well received by participants. When asked to evaluate specific topics covered by the precourse, the participants noted they had gained the most knowledge or increased competence in these

TABLE 1
International medical graduates pre- and posttest scores on the test of medical knowledge and skills

Question ID	Points Possible	<i>M</i> Pretest Score (<i>SD</i>)	<i>M</i> Posttest Score (<i>SD</i>)	<i>z</i>	<i>p</i>
1. Admit orders	20	7.55 (1.04)	7.64 (0.92)	-.32	.75
2. Discharge orders/summary	10	5.64 (1.50)	6.00 (1.84)	-.96	.34
3a. Discharge script	6	1.91 (2.51)	4.36 (2.06)	-2.20*	.03
3b. Discharge script	6	1.36 (1.91)	3.45 (2.34)	-2.39*	.02
4. IV fluid	4	.73 (1.62)	1.09 (1.87)	-.58	.56
5. IV fluid	4	2.91 (1.87)	2.91 (1.87)	.00 ^a	1.00
6. Informed consent	4	1.82 (2.09)	3.64 (1.21)	-1.89	.06
7. Cross-cover orders	4	.55 (1.29)	1.27 (1.85)	-1.30	.19
8. Cross-cover orders	4	2.18 (2.09)	2.18 (2.09)	.00 ^a	1.00
9. Role of social worker	4	4.00 (0.00)	4.00 (0.00)	.00 ^a	1.00
10. No insurance	4	3.64 (1.21)	3.64 (1.21)	.00 ^a	1.00
11. Confidentiality	4	4.00 (0.00)	4.00 (0.00)	.00 ^a	1.00
12. SOAP note definition	4	1.55 (1.86)	3.91 (0.30)	-2.59*	.01
13. Patient autonomy	4	3.64 (1.21)	4.00 (.00)	-1.00	.32
14. DNR/DNI	4	.73 (1.62)	2.18 (2.09)	-1.63	.10
15. EKG	8	4.45 (2.58)	5.82 (1.83)	-1.13	.26

Note. *n* = 11. SOAP = Subjective, Objective, Assessment, and Plan; DNR/DNI = Do Not Resuscitate/Do Not Intubate.

^aThe sum of the negative ranks equals the sum of positive ranks.

**p* < .05. Wilcoxon Signed Ranks tests were two-tailed.

areas: writing prescriptions, writing SOAP notes, understanding confidentiality laws and expectations in the United States, and conducting the H&P. The value of instruction in these areas was also noted by participants in their written comments, along with the following aspects of the course they found helpful: increased familiarity with staff and systems, interaction with the chief and senior residents, pelvic examination, and discussion of the approach to patient care in the United States. Participants also rated highly the item "instructors were helpful and respectful" and included many positive comments about friendly faculty and staff members who participated in the precourse and made them feel welcome.

Curriculum topics that received the lowest ratings included writing discharge orders, end-of-life issues, interpreting cardiac rhythms, ordering IV fluids, and writing cross-cover orders. In their written comments, participants noted that the orientation precourse was too long and the real estate and insurance sessions were not necessary. When asked for topics to add to the curriculum, participants cited instruction on the hospital computer system, introduction to phone dictation, and early morning rounds and admissions with interns.

We also turned to key stakeholders to learn more about the impact of the precourse. One investigator (KH) conducted semistructured interviews with members of the program staff (program director and curriculum coordinator) and health care team (charge nurse and social work director). The purpose of these interviews was to improve our understanding of staff members' perceptions of the problems associated with IMG

acculturation; to assess the perceived impact, if any, of the precourse; and to identify topics or skills not addressed by the program. Program staff members were selected purposively, and the criterion for inclusion was that the staff member should have sufficient contact with the precourse participants to be able to observe their behavior and performance. An exception was made for the nurse manager, who typically would not interact with the residents but would be notified of complaints related to professionalism or lack of medical knowledge.

Interviews (*n* = 5) began approximately 2 months after the completion of the precourse. Each interview lasted approximately 20 to 30 min and followed an interview question guide. Using qualitative research methods,¹⁰ interview transcripts and researcher notes were analyzed for recurrent themes. One investigator reviewed and analyzed transcripts, using the guiding questions and decision rules (i.e., inclusion and exclusion criteria) to assign codes to key themes. When open coding was completed, axial coding was employed to refine the coding structure. Evidence that might refute emerging themes was examined throughout the analytic process.

Four key themes emerged after analysis of the interview data: support for continuing the precourse, improved environment for teaching and learning, improved knowledge base, and informal communication. The first theme, support for continuing the precourse, was expressed directly by some of the key stakeholders and also indirectly, when stakeholders noted a positive contribution made by the precourse and followed this comment with

TABLE 2
Mean evaluation ratings

Evaluation Item	M (SD)
During this course, I gained competence in how to write:	4.67 (0.50)
prescriptions	4.56 (0.53)
a SOAP note	4.44 (0.73)
H&P	3.90 (0.88)
a discharge summary	3.89 (0.78)
admit orders	3.56 (1.01)
discharge orders	2.50 (1.31)
cross-over orders	
During this course, I gained competence in how:	3.45 (1.21)
to interpret cardiac rhythms	3.20 (1.14)
to order IV fluids	
I gained an understanding of:	4.55 (0.69)
the meaning of confidentiality in the US medical system	4.27 (1.27)
informed consent and patient autonomy	4.18 (0.75)
the roles of supervising residents, attendings, and medical students on the ward team	3.82 (1.17)
the roles of nurse, social workers, and ancillary staff	3.55 (0.93)
issues related to end of life care, e.g., hospice placement, living wills, DNR/DNI	4.64 (0.67)
The instructors for the sessions were helpful and respectful	3.80 (0.42)
The morning report sessions were helpful/not helpful	3.73 (0.90)
The Sub-Internship rounds were helpful/not helpful	3.91 (1.14)
Overall, how would you rate this course	

Note. A 5-point Likert-style scale from 1 (*strongly disagree*) to 5 (*strongly agree*) was used. SOAP = Subjective, Objective, Assessment, and Plan; H&P = history and physical; DNR/DNI = Do Not Resuscitate/Do Not Intubate.

a statement noting their expectation that the precourse would be offered again next year. The stakeholders most familiar with the precourse schedule noted that although the course should be offered again, the program should be shortened.

Two themes reflect stakeholders' perspectives on the value added by the curriculum. The theme, recognition of an improved environment for learning, acknowledges the benefit of the residents' immediate familiarity with the hospital due to their early orientation. Stakeholders also described a smooth start to the year, especially when compared with previous years marked by confusion, questions, and time spent attending to transition tasks. The theme, improved knowledge base, describes a reduction in the number of complaints made to stakeholders about IMGs' insufficient fund of knowledge or errors related to the system (e.g., writing an outpatient prescription accurately).

In describing the fourth theme, informal communication, stakeholders described situations where the precourse participants' English speaking or writing skills were satisfactory, but communication was hampered by unfamiliarity with humorous expressions, jargon, and idioms commonly used by hospital staff. Some of the stakeholders suggested that although language proficiency need not become a goal of the curriculum, it might be valuable to add a session or provide handouts to improve informal communication.

CONCLUSIONS

Despite growing numbers of IMG residents and documented differences in the educational experiences of IMGs and USMGs, there has been little attention given to the varying orientation needs of the two groups.¹¹ Recently there has been a growing amount of literature addressing the need to prepare IMGs for practice in the United States in a "culturally competent" manner during residency.⁴ Many of these issues pertain to issues of professionalism. Some of these can be learned by observing role models, but a structured educational experience to address these competencies at the start of a residency program offers a more deliberate and effective approach to convey to residents that the core competencies extend beyond acquiring medical knowledge.

This acculturation precourse addresses these needs immediately prior to entering residency, at the time when the knowledge gap is the widest and residents are most motivated to succeed. We learned this helps accelerate IMGs' ability to learn about the culture of the U.S. health care system during their residency. We also propose it will reduce medical errors and increase resident and patient satisfaction, particularly in the first few months of residency. Nationally, there has been a call for resources for graduate medical education (GME) initiatives to help IMG residents. Our experiences at Creighton University School of Medicine prompted us to develop a program that can be

implemented at a local level with limited resources. This program has been cited nationally as a best practice. Perhaps more significant, we had strong support from both USMG faculty and IMG faculty, and it should be noted that faculty and residents who were IMGs were some of our most supportive participants. The needs assessment conducted prior to the precourse proved predictive of the important issues to include in our curriculum.

We now offer the orientation in the beginning of every year. After careful review of performance on the tests, focused interviews, and evaluations, we have made significant modifications to the curriculum used for the pilot orientation. These changes consist of some structural changes such as shortening the course duration from 2 to 1 week. Other changes involve increasing the amount of active learning by having the IMGs work with the resident teams on prerounds before the official attending rounds. When our posttest results for medical information units such as EKGs and IV fluids were not improved as predicted, we reviewed the specific units (which were all video-recorded) and found that our colleagues had over estimated IMG knowledge and skills in these areas. Unfortunately, the lectures offered on these topics during the precourse were at a level appropriate to a new USMG but not an IMG. In subsequent years, we focused on orientation of our faculty in these specific knowledge areas to ensure lectures are better aligned with learners' past experiences and current knowledge gaps. We also have dedicated more time to clinical correlation of EKG interpretation.

Although we had devoted a significant amount of time to issues of patient autonomy and end-of-life issues, we also agree with Kales et al.¹² that lack of training in mental health should be addressed. During our 2nd year of this program we had a unit on mental health presented by one of our IMG psychiatry faculty members.

One of the significant limitations of our program is the lack of a mechanism to identify and help those residents who struggle with the transfer and application of basic science and medical knowledge to their clinical practice. In the U.S. system with its emphasis on student participation on rounds, the learner's development is generally more closely observed and included in evaluations in the medical school years. For many IMGs this ability was probably not assessed in a reportable manner to the residency programs. However, we believe that residents who struggled with this process of knowledge transfer and application were identified more quickly since the introduction of the precourse, because these problems could no longer be attributed to a lack of knowledge of the health care system or culture.

We feel our program was useful and should be adaptable for most other GME programs. It should be noted that one of the main limitations was that this was a pilot program and there will be a need to use validated outcome and assessment measures in the future. Another limitation is the small number of participants, which limits the ability to generalize results, but because of widespread need and the fact that it can have important outcomes for patient care and education, we believe most primary

care programs can benefit from instituting a similar program on which they can build.

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APPENDIX

Acculturation Precourse for International Medical Graduates Curriculum Document

Rationale

The number of International Medical Graduates [IMG] applicants to residency programs has been progressively increasing. In the 2003 match, 2,102 of the 4,692 Internal Medicine categorical residency positions went to non-U.S. graduates.¹ IMGs are highly motivated individuals who want to succeed. There are basic differences in their training that can affect their ability to relate to patients and support staff with a direct impact on quality of patient care.² IMGs will often "catch up" and even surpass their American-born associates, but in the first few months there can be more patient errors and patient dissatisfaction. This can also have an impact on resident and student learning. This precourse is designed to help integrate

the IMG, prior to beginning patient care responsibilities, in order to decrease errors and help these individuals succeed.

Context of Curriculum

This curriculum is designed for International Medical Graduates prior to beginning their residency. The IMGs should not have more than one year between medical school graduation and/or clinical experience and this curriculum. The course also presumes full fluency in the English language. The course is designed to be 2 weeks in length and is to be done prior to the July 1st start of residency. It is required for all IMGs.

Curricular Goal

The International Medical Graduate will be able to understand and practice in the "diverse culture" of American medicine with a direct decrease in medical errors and increase in patient satisfaction. It will also lead to increase in resident and faculty satisfaction.

Methods

The course will be 2 weeks long. There will be a mix of lectures followed by standardized patient contact and evaluation. Practice writing from clinical vignettes, which will be through video or Internet, will also be done. A substantial amount of time will be spent as a sub-intern with the rounding team and clinic personnel. A hard copy and PalmPilot-based review of key points will be provided as a reference to the residents participating in this course.

Evaluation of Learners

Pre and Post Test

Standardized Patient Encounters

Feedback from trained patients and attending feedback from video Graded medical writing for accuracy and completeness Professional interviews, done by a neutral third party, of multiple personnel involved in working with the interns, including nurses, social work, program directors and supervisory residents.

Units

Professionalism

Social Justice

Cultural competence

Shared decision making (equality)

Physician/patient communication

Interviewing and Examinations

Psycho-social aspects of illness

Patient expectations

End-of-life care

Delivering bad news

Testing (Reassurance vs. cost effectiveness)

Non-patient Communication

Working with Ancillary Staff

Rounding with a team

Flowchart of who to talk to for questions

Clinical Practical

Gynecology Exam

IV fluids

Cardiology Practical

Writing in medicine

H&Ps

Discharge summaries

Prescriptions

Orders

Clinic/SOAP notes

Non-medical support issues

Help in obtaining social security numbers, housing, banking etc.

Transport issues/driving license

Financial issues

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