

EPC Genetics Focus Group

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Objectives for the genetics focus group include answering the following questions:

1. How effectively are the various pieces of the genetics curriculum taught?
What could be done to improve the poorly taught areas? What things need more time in the curriculum?
2. Is there anything related to genetics that is not in the curriculum?
3. Genetics is not taught longitudinally. Is this approach this appropriate?
With the understanding that there is no specific time open now for another block of teaching and if you believe there should be a block of genetics, what should it replace?

The genetics focus group believes the following:

1. At SIU students gain genetic information through several avenues including PBL cases, self study, clinical exposure and lectures. The most concerning area of weakness is the lectures. Students stated that the content of the lectures has been a problem; lecturers need to know what material is pertinent and at what depth it should be covered. In the past some lecturers covered material in too much depth resulting in student confusion and frustration. Students felt that more time spent on genetic topics would aid their understanding of genetic information. However, it was stressed that adding more lectures will be ineffective if they are taught poorly.
2. The lectures need to start with basic genetic information and need to be presented in a logical order. This has not always occurred in the past.
3. One way to increase student exposure to genetics information would be to have genetic lectures every other week throughout the first year, similar to how biochemistry is taught. These sessions could be optional. As long as they are taught in an effective manner and students are told of their importance in relation to the USMLE step 1 students will attend. The lectures should focus on providing students with a basic genetic background and on covering the genetic topics listed on the USMLE website.
4. Another idea was to have a genetics website similar to the website Dr. King has for histology. It was felt that a lot of time was wasted during the first year trying to find genetics information and figuring out what information was relevant. Although this is a great idea, finding someone to develop this website would be

- the biggest obstacle. Perhaps it could be offered as a fourth year elective. If students could work on the elective prior to the fourth year more students would probably take the elective. Another alternative would be to have a list of recommended genetic websites.
5. Genetics also needs to be tested more heavily to ensure students take it seriously.
 6. If available, the following people could contribute to first year genetics lectures
Dr. Adler, Dr. Auchenbach, Dr. Bartholomew, Dr. Collard, Dr. Huggenvik, Jolyn Smith, Dr. Patrylo, and Dr. Stegar.
 7. If available, the following people could contribute to second year genetics lectures
Dr. Brandt, Dr. Helfert, Dr. Naida, Dr. Torry, and Dr. Watabe.
 8. Second year would benefit from added hematology and oncology coverage. Dr. Brandt, would be the best person to give a lecture on these topics.
 9. A high yield genetic review covering the genetic information in First Aid near the end of second year could be very effective.

Strengths:

The genetics focus group did feel that the general clinical skills students should be able to perform and attitudes students should have, as described in Appendix A of the EPC Biotechnology, Genetics and Ethics Subcommittee Recommendations to EPC, are taught effectively throughout the four years of SIUSOM. No additional time needs to be spent on these areas.

Curriculum recommendation chart review

- 1.3 People who did not already have genetics prior to medical school felt more time needed to be spent on the basics, such as punnett squares, transcription and translation. Students also felt things did not progress in a logical order. Lectures were more effective for students who already had genetics, but were of little value to those students who did not have any previous exposure to genetics.
- 1.5 Students felt that mitochondrial diseases needed more coverage in the curriculum prior to the USMLE step 1.
- 1.7 This topic (clinical manifestations of common numeric, structural, and mosaic chromosomal anomalies) is also covered some third year in the pediatric rotation.
- 1.8 This topic (genetic imprinting and uniparental disomy) is also covered some third year in the pediatric rotation.
- 1.9 This topic (population genetics and public health implications of genetic epidemiology) is not covered first year.
- 1.11 Inborn errors of metabolism is covered some first year, not at all second year and covered again in the pediatric rotation third year. This topic needs to be covered more prior to the boards. Dr. Naida would be the best person to give a lecture on this topic during second year.
- 1.17 Students felt they have received good exposure to the topic of disease frequency in different ethnic groups. Most students believed that they probably covered this topic on their own while reading about different diseases.
- 1.19 This topic (procedures available for prenatal genetic diagnosis and the kinds of disease that can be detected prenatally) is also covered in the first year pregnancy case.

- 1.23 Students do not feel they have ever been exposed to the topic of new gene therapies.
- 1.27 Antibiotic resistance and microbiologic virulence is covered well during the second year.
- 2.1 Obtaining a genetic history and constructing a pedigree is covered first year, but not second year.
- 2.4 Students did not feel that the use of information systems, including library and electronic resources, in the evaluation and management of patients with genetic disease is being covered anywhere in the curriculum.
- 2.11 & 2.12 Given the limited amount of time allowed for genetics in the curriculum students felt that these topics (communication of genetics information and understanding the normal developmental stages of human behavior, maturation, and intelligence in order to facilitate counseling) were not of major concern. Students thought these areas would be covered in residency if necessary.
- 3.1 Disease prediction and prevention is being covered well in year 2 and year 3.
- A2.1 Students are currently being taught about informed consent and tested on explaining informed consent to patients during year 3 doctoring.
- A2.5-A2.8 These topics (conveying bad news, recognizing patients' defense mechanisms, coping emotionally with responses of patients, and interpreting their own attitude toward ethical, social, cultural, religious, and ethnic issues) are emphasized well throughout the four years of the SIUSOM curriculum.
- A3.1-A3.4 These topics (respecting patient's religious, moral, and ethical beliefs and biases, presenting all available options fairly, accurately, and nondirectly, being aware of the importance of confidentiality, and being aware of the advantages and potential hazards of referring patients and families to community or natural resources) are emphasized well throughout the four years of the SIUSOM curriculum.