

Medical Science in the Trek Clerkship Phase

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In the Trek curriculum, the three pillars of medical sciences, clinical sciences, and health systems science are interleaved throughout all four years, with different areas of emphasis in different phases. While the Foothills – the clerkship phase in Year 2 – has an emphasis on the clinical sciences as students are immersed in clinical settings and patient care, there are dedicated opportunities for the teaching and integration of both health systems science and medical science content. In this newsletter, we highlight the integration of medical science into the clerkship curriculum.

The Foothills formal classroom curriculum will be comprised of weekly Team-Based Learning (TBL) sessions. Briefly, TBL is a flipped classroom model in which students complete foundational pre-work material (readings, videos, etc), and complete a multiple-choice quiz individually (termed the individual readiness assessment test, or iRAT), prior to their arrival in class for the application exercises or case discussions. Prior to the case discussions, students in a team re-take the same multiple-choice quiz (termed the team readiness assessment test, or tRAT). This allows students to challenge and teach one another and encourages accountability around preparedness. The quiz is discussed by the class and content expert facilitator. Finally, the teams embark on application exercises, or cases, that require them to utilize previous knowledge plus the information they learned in pre-work in order to provide care in complex patient care scenarios, challenging their clinical reasoning, building foundational knowledge, and honing communication and teamwork skills.

In the Foothills, TBL is an opportunity for students to integrate all three pillars relevant to patient cases. In pre-work, they may read papers or watch videos regarding the physiology of a system, the science behind a diagnosis or the microbiology of common and rare infections. Weekly iRAT/tRAT questions will be specifically relevant to medical sciences using USMLE Step 1-style questions, which compel students to apply medical science knowledge in the context of clinical vignettes. In the Trek curriculum, students will take both USMLE Step 1 and 2 after the Foothills, so the iRAT/tRAT will serve to continuously prepare students for these examinations. Once students approach the application exercises, or patient cases, they will work through clinical challenges in decision-making as well as questions related to medical sciences, such as explaining the pathophysiology of a disease, interpreting a CT scan, or delineating the mechanism of action of a pharmaceutical prescribed to a patient.

By engaging students in both pre-work materials and in-class segments of TBL application exercises focused on medical science, we will ensure that students are engaging with the medical science content necessary for them to reinforce and build on Plains learning as they prepare for the post clerkship phase Alpine Advanced Science Courses and their future clinician careers.

Importantly, as students participate in clinical work during the clerkships themselves, students will be constantly considering the medical sciences. If the patients they are caring for have a particular disease or are prescribed a particular drug, they will be expected to research this content and be prepared to present to their faculty about it. Students will begin to appreciate the need for understanding and applying medical science content in patient care. We strongly believe in training curious physicians, equipped to understand the scientific underpinnings of disease and medicine and prepared to ask the questions that will prompt excellence in patient care and scientific discovery. This is only achievable through a truly integrated medical and clinical science curriculum.