

Integrating Pathology and Laboratory Medicine into the Transitional Clerkship Model: A Strategic Educational Realignment

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Introduction:

The structure of medical education is critical in shaping competent and well-rounded physicians. In recent years, the PMDC has proposed Harden level seven (correlation) as the minimal level of integration hence it has become imperative to propose a new framework of teaching of pathology. There has been growing recognition of the need to better integrate basic and clinical sciences throughout the medical curriculum.¹ One area that demands such integration is Pathology, particularly as we seek to enhance the role of Special Pathology and Laboratory Medicine within the 4th year MBBS Transitional Clerkship model.²

This writing outlines a strategic realignment that redistributes pathology and microbiology content across the MBBS program, culminating in a robust, practice-oriented clerkship in Laboratory Medicine for final-year students.

Redistributing Pathology and Microbiology Content

The traditional approach often separates basic sciences from clinical training, resulting in a disconnect between theory and practice.³ The Pathology in traditional discipline based curricula is taught in third & fourth years and sometimes complete pathology in any one year. Curriculum reforms requires a spiral integration of pathology from first to fourth year of medical curriculum. The

teachings hours need to be redistributed according to PMDC requirements.

The integration and redistribution can be done in many different ways. The following redistribution is one such proposal. In this outline the Pathology is introduced early in the curriculum at the level of first year and will go up to fourth year of medical teachings. The pathology teachings will start from general and basic and will become complex and more applied as the year progresses along with simultaneous assessments. The outline proposed is as under.

1. First and Second Year MBBS:

- **General Pathology:** Introduce and complete by the end of the second year.
- **Microbiology (20%):** Cover foundational microbiology alongside General pathology.
- **Assessment:** Conduct comprehensive assessments at the end of the second year, ensuring students have a solid understanding of these basic sciences before advancing.

2. Third Year MBBS:

- **Special Pathology (50%):** Begin introducing more complex and specialized pathology concepts.
- **Microbiology (80%):** Deepen microbiological knowledge, building on the foundations laid in the first two years.
- **Assessment:** Perform evaluations at the end of the third year to gauge students' proficiency in

these areas, preparing them for the clinical challenges ahead.

3. **Fourth Year MBBS:**

- **Special Pathology (50%) Transitioning into Laboratory Medicine:** Modify and deliver the remaining special pathology content within a clinical context, emphasizing laboratory medicine.
- **Clinical Clerkship in Laboratory Medicine:** Implement a comprehensive clerkship model that integrates laboratory medicine practices, bridging the gap between pathology theory and clinical application.
- **Assessment:** Conclude with a rigorous assessment by the end of the fourth year, ensuring readiness for clinical practice.

Advantages of the Integrated Model.

This restructured curriculum can offers several advantages over traditional teaching. Early introduction will help student to develop a solid base of pathological process while learning normal structures. Later he will have chance to apply the acquired knowledge and skills to laboratory medicine at fourth year. Some of the advantages are listed as under.

1. **Enhanced Continuity and Integration:** The pathology is introduced in early years of education and will continue up to fourth year. By aligning pathology and microbiology content with the stages of medical education, students experience a seamless progression from basic sciences to clinical practice.⁴ This continuity will fosters a deeper and better understanding and retention of knowledge.
2. **Practical Application of Knowledge:** At the end of third year the students after developing a good theoretical base and will learn laboratory medicine in subsequent years. Introducing this as a clinical clerkship in the fourth year will allow students to apply theoretical concepts in real-world scenarios.⁵ This hands-on experience

is crucial for developing practical skills and clinical acumen.

3. **Improved Assessment and Feedback:** Regular assessments at the end of each stage provide timely feedback, enabling students to identify and address knowledge gaps early.⁶ This iterative process ensures that they are well-prepared for subsequent challenges.
4. **Bridging the Theory-Practice Gap:** Transitioning special pathology into laboratory medicine emphasizes the relevance of pathology in clinical settings. This approach not only enhances learning but also prepares students for the interdisciplinary nature of modern medical practice.

Implementing the New Curriculum.

Successful implementation of this integrated curriculum will require collaboration among faculty, administrators, and clinical partners. The suggested key steps to introduce this curriculum will be;

- **Curriculum Development:** The institutional curricular committee will redesign course content to reflect the new distribution, ensuring alignment with educational goals and clinical requirements.
- **Faculty Training:** The faculty has to be trained for delivery of this curriculum. This training would equip educators with the skills and knowledge needed to deliver the integrated curriculum effectively, emphasizing interdisciplinary teaching methods.
- **Clinical Partnerships:** Laboratories will be taken aboard in clinical teaching. Hence after implementation of this curriculum, a strong collaboration with clinical laboratories and healthcare facilities will be established. The students will have a chance to get a meaningful clerkship experience.
- **Continuous Evaluation:** A system of continuous curriculum monitoring and evaluation will be established. This will ensure

quality assurance and enhancement, (making suitable adjustments) based on feedback from students, educators, and clinical partners.

Conclusion

Integrating general & special pathology along with laboratory medicine into the first to fourth year MBBS clerkship model represents a forward-thinking approach to medical education. By realigning the curriculum and assessments, we can bridge the gap between basic sciences and clinical practice, producing well-prepared, competent physicians ready to meet the demands of modern healthcare. This strategic realignment not only enhances the educational experience but also ensures that our future doctors are equipped with the knowledge and skills necessary to excel in their careers.

References:

1. Lew M. Increasing medical student exposure to pathology by creating an integrated rotation during surgery clerkship. *Academic Pathology*. 2021 May 10;8:23742895211015344.
2. Krasowski MD, Blau JL, Chen SJ, Jones KA, Schmidt TJ, Bruch LA. Teaching pathology in an integrated preclinical medical school curriculum and adaptations to COVID-19 restrictions. *Academic pathology*. 2021 May 18;8:23742895211015337.
3. Butts CA, Speer JJ, Brady JJ, Stephenson RJ, Langenau E, DiTomasso R, Fresa K, Becker M, Sesso A. Introduction to clerkship: bridging the gap between preclinical and clinical medical education. *Journal of Osteopathic Medicine*. 2019 Sep 1;119(9):578-87.
4. Koch LK, Chang OH, Dintzis SM. Medical education in pathology: general concepts and strategies for implementation. *Archives of Pathology & Laboratory Medicine*. 2021 Sep 1;145(9):1081-8.
5. MacLellan AM, Brailovsky C, Miller F, Leboeuf S. Clerkship pathway: a factor in certification success for international medical graduates. *Canadian Family Physician*. 2012 Jun 1;58(6):662-7.
6. Yen-Ju Lin B, Liu PC, Ku KT, Lee CC. Adaptation of medical students during clinical training: effects of holistic preclinical education on clerkship performance. *Teaching and Learning in Medicine*. 2019 Jan 1;31(1):65-75.