



Pathology Informatics Essentials for Residents At-a-Glance

Pathology Informatics Essentials for Residents (PIER) is a research-based instructional resource guide developed by the Association of Pathology Chairs (APC), the Association for Pathology Informatics (API), and the College of American Pathologists (CAP). PIER presents training topics, implementation strategies and resource options for program directors and faculty to effectively provide informatics training to their residents and meet ACGME informatics milestone requirements.

PIER is intended to help residency programs provide a sufficient pipeline of residents properly trained in core informatics knowledge and skills required to practice pathology now and in the future. PIER is not designed for pathologists who seek to become pathology informaticians. PIER is also an effective resource for aspiring specialists to develop prerequisite pathology informatics knowledge and skills prior to advanced training or fellowships.

Developed by a large team of pathology informatics educators and experts, PIER offers program directors and faculty:

- An up-to-date and validated pathology informatics knowledge and skill set
- Flexible delivery options that can be adapted by program size, needs and level of faculty expertise
- Topic organizers, objectives, milestone levels, rotation planning, practical clinical applications, and existing learning resource options

Programs that adapt and execute PIER will provide residents with the pathology informatics knowledge and skills necessary to practice pathology, including:

- The collection, management, use and sharing of diagnostic and treatment information that enables the delivery of accurate and high quality healthcare, and optimal patient outcomes
- Ensuring that patient healthcare information is accessible to colleagues across the healthcare environments and at every step of patient care

Release Plan

The prototype, Pathology Informatics Essentials for Residents – Instructional Resource Guide – Release 0 was introduced at the July 2014 APC Annual Meeting. Release 1 was the first fully developed iteration of PIER. It was alpha tested by 12 residency programs from late fall of 2014 through October of 2015. Release 2 contains updates recommended by the alpha testers. Future PIER updates and improvements will be distributed as they become available and can be found on the APC website.

PIER Scope and Sequence

PIER Essentials present up-to-date pathology informatics training topics organized into four groupings. PIER exposes residents to information technology in pathology as they participate in their anatomic and/or clinical pathology rotations and residency activities related to management, quality assurance and control, regulatory and accreditation issues, as well as daily flow of information into and out of the laboratory and the proper utilization of that information.

PIER Essentials 1

- Informatics in Pathology Practice
- Information Systems Fundamentals
- Importance of Databases
- Introduction to Data Standards
- Data Availability & Security

PIER Essentials 2

- LIS Components & Functions
- Specialized LISs & Middleware
- Data & Communication Standards
- Digital Imaging
- Basics of the Health Care Information Ecosystem

PIER Essentials 3

- Pathologist Role in LIS & EHR Projects
- LIS Installation & Configuration
- Information Systems & Laboratory Performance
- Data Security, Regulatory & Accreditation Requirements

PIER Essentials 4

- LIS Management & Oversight
- Order and Results Management
- Laboratory Data for Quality Improvement & Research
- Laboratory Data & Enterprise Health Care Analytics

The proficiency level, ACGME milestone level, and number of instructional hours are identified for each PIER Essential. The PIER Essentials are scoped and sequenced for pathology residents to achieve the level of proficiency necessary to practice pathology, and meet the ACGME milestone requirements.

PIER Resource Toolkit

PIER's Scope and Sequence identifies the "what" to be taught. The PIER Resource Toolkit provides the "how" of planning, implementing and managing delivery of the four PIER Essentials. Users can add, customize and maintain their own tools and content in their Resource Toolkit electronic file. The Resource Toolkit is organized into four sections that correspond to the PIER Essentials. Each section contains three key tools for program directors and residents:

- **Essentials Map** - identifies the topics, topic rationale, outcomes, topic content, rotation options, and delivery options for each Essential
- **PIER Resource Options** – Includes a recommended set of expert resources and practical training exercises for each topic
- **Essentials Outcomes Achievement Checklist** - Tracks accomplishment of each outcome statement; successful completion of an Essentials suggests achievement of the corresponding ACGME Milestone level, making this tool useful as supporting documentation of the ACGME Milestone requirement

The PIER Resource Toolkit is available to help program directors and residents make good GME pathology informatics training decisions, scaling PIER's topics and implementation to their own needs and circumstances.

PIER Implementation

Residency programs have their own philosophies, rotations, approaches, customs and preferences for how to educate and prepare residents for practice. When considering PIER, program directors and faculty are encouraged to begin by comparing their current pathology informatics training approach to PIER, and identifying the degree to which their current training approach is preparing residents adequately.

Using the results, program directors and faculty further consider PIER and its flexible delivery options, and identify how PIER can help the program increase pathology informatics training effectiveness. Decisions regarding degree of use and implementation sequencing are made based on the program's rotation schedule, available faculty expertise, delivery preferences, and program capacity. Program directors and faculty can implement the delivery options as proposed or customize them to suit their needs and preferences.

Program directors and faculty ultimately determine and are responsible for how their residents will meet the ACGME milestone requirements and achieve the level of proficiency necessary to practice pathology, and are encouraged to let PIER help the program increase effectiveness and achieve success.

Authors

PIER was initially designed and developed by the PIER Collaboration Working Group with members and professional staff from the APC, API, and CAP. CAP's Graduate Medical Education Committee (GMEC) provided guidance on PIER's change management strategy. The initiative was led by:

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Questions?

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