EPA 2: Management and Prevention of Infections Associated with Medical/Surgical Devices, Surgery, and Trauma

Supervision Scale for This EPA

1. Trusted to observe only
2. Trusted to contribute with direct supervision and coaching as a member of a collaborative effort to improve care at the patient and institutional levels
3. Trusted to contribute without direct coaching as a member of a collaborative effort to improve care at the patient and institutional levels
4. Trusted to lead collaborative efforts to improve care for populations and improve systems at the institutional level
5. Trusted to lead collaborative efforts to improve care at the level of populations and systems at the regional and/or national level

Description of the Activity

A key role for subspecialists is to provide consultation for the care of children with complex, prolonged, or antimicrobial-resistant infection related to a medical/surgical device, surgery, or trauma and to advise best practices in prevention of such infections and instances when removal of a device is indicated.

Examples include: ventriculo-peritoneal shunt and other CNS device-associated and surgical-associated infections; osteomyelitis and deep wound infections associated with laminectomy/vertebral rod placement; prolonged/persistent bloodstream infection associated with intravascular catheter or cardiac shunt/graft/prosthetic valve; life-threatening infection following trauma or burn; complicated infections following surgery involving the mediastinum, the gastrointestinal or genito-urinary tract; diagnosis and management of uncommon (e.g., fungal or mycobacterial) or antimicrobial-resistant infections associated with a device, surgery, or trauma.

The specific functions which define this EPA include:

1. Demonstrating knowledge of particular microorganisms including virulence and pathogenicity associated with specific medical devices, surgical procedures, and types of trauma and other risk related factors by generating a prioritized differential diagnosis
2. Obtaining a targeted history suspecting/supporting a diagnosis and recognizing complications
3. Performing a targeted physical examination suspecting/supporting a diagnosis and recognizing complications
4. Focusing laboratory and microbiologic investigations to confirm diagnosis and suspected complications, providing recommendations to surgery teams regarding operative cultures for microbiologic studies
5. Targeting specific antimicrobial choice, dosing, delivery, combinations to optimize outcome
6. Advising appropriate surgical removal/retention of a device or debridement based on clinical evidence, review of case-specific evidence in the medical literature, and an understanding of the associated risks of each approach

7. Forging an investigative collaboration with other health providers including surgeons, pediatric subspecialists, and infection control practitioners to identify case-related infection prevention error(s) and system failures and to plan quality improvement measures for prevention

Judicious Mapping to Domains of Competence

✓ Patient Care
✓ Medical Knowledge
✓ Practice-Based Learning and Improvement
✓ Interpersonal and Communication Skills
✓ Professionalism
✓ Systems-Based Practice
✓ Personal and Professional Development

Competencies Within Each Domain Critical to Entrustment Decisions*

| PC 7: | Developing management plans |
| MK 2: | Practicing EBM |
| PBLI 4: | Analyzing practice |
| PBLI 9: | Educating others |
| ICS 3: | Communicating with health professionals |
| SBP 2: | Coordinating care |
| SBP 6: | Identifying system errors |
| PPD 6: | Providing leadership to improve care |

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Context for the EPA

Rationale: Pediatric infectious diseases (ID) physicians must be able to diagnose and treat children in multiple medical settings with complex, prolonged, or antimicrobial-resistant infections related to a medical/surgical device, surgery, or trauma and to advise best practices in prevention of such infections and instances when removal of a device is indicated.

Scope of Practice: The scope of practice for a pediatric ID clinician includes consultative work in both inpatient and outpatient settings. A major duty of the ID clinician is to provide education for the consulting providers. Anticipatory guidance should be provided to patients and families, and realistic treatment goals should be set. The patient population includes neonates through young adults, and sometimes beyond. This document addresses the scope of knowledge and skills of the Pediatric ID physician caring for patients with infection
related to a medical/surgical device, surgery, or trauma, including complex, prolonged, or antimicrobial-resistant infection.