



Entrustable Professional Activities

EPA 4 for Pediatric Endocrinology

EPA 4: Manage Patients with Chronic Endocrine Disorders in Ambulatory, Emergency, or Inpatient Settings

Supervision Scale for This EPA

1. Trusted to observe only
2. Trusted to manage with direct supervision and coaching
3. Trusted to manage with indirect supervision and discussion of information gathered and conveyed for most simple and some complex cases
4. Trusted to manage with indirect supervision but may require discussion of information gathered and conveyed for a few complex cases
5. Trusted to manage without supervision

Description of the Activity

Children with chronic endocrine disorders require ongoing management in the inpatient and outpatient settings. This requires an appropriate knowledge base for ongoing treatment of patients with known endocrine disorders and an understanding of the interplay between chronic endocrine disease and unrelated acute illness.

The specific functions which define this EPA include:

1. Understanding of the long-term management of chronic endocrine conditions, including the risks and benefits of therapy and associated comorbidities
2. Understanding the psychosocial and financial implications of chronic disease for families and children at various stages of development
3. Developing and documenting a clear management plan for patients with chronic endocrinologic disease requiring hospitalization for surgery or acute illness
4. Managing uncertainty (your own as well as that of the patient and family) as aspects of the care of these patients are often not immediately apparent at presentation or clearly defined in evidence-based descriptions of endocrine disorders
5. Coordinating care with the interdisciplinary health care team. The child with chronic disease needs the input of many professionals on the health care team as well as from community resources (e.g., school nurse, home health provider, support group). Thus, the entrusted professional must be able to communicate and partner with all members of the health care team

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



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Competencies Within Each Domain Critical to Entrustment Decisions

PC 4:	Interviewing patients
PC 5:	Performing complete physical exams
ICS 1:	Communicating with patients/families
ICS 2:	Demonstrating insight into emotion
SBP 5:	Working in interprofessional teams
PPD 1:	Engaging in help-seeking behaviors
PPD 8:	Dealing with uncertainty

Context for the EPA

Rationale: Pediatric endocrinologists must be able to provide ongoing management of patients with a variety of chronic endocrinologic conditions at various developmental stages from the newborn to early adulthood. This necessitates an understanding of pathophysiology, natural progression of the disease, interpretation of laboratory and radiologic findings, and the ability to synthesize these in the context of the developmental stage and family setting.

Scope of Practice: Patients with chronic endocrinologic disorders are seen in the ambulatory setting, emergency departments, or as inpatient consultations. The patient populations will range for newborns to those in early adulthood. Scope of practice will change with context ranging from primary responsibility for patient care to providing consultative services, though the need for coordination of care with an interdisciplinary team and the patient's community support system is present throughout. This document is intended to address the scope of knowledge and skills of the pediatric endocrinologist in both hospital-based and private practice. As such, it focuses on common problems that a pediatric endocrinologist would manage with the understanding that the general pediatric endocrinologist will recognize his/her own limitations and seek additional assistance from subspecialists within and outside the field as needed.

Curricular Components That Support the Functions of the EPA

1. Understanding of the long-term management of chronic endocrine conditions, including the risks and benefits of therapy and associated comorbidities
 - Determines the general state of the patient with a chronic endocrine condition in comparison to his/her baseline state
 - Distinguishes the abnormal findings on physical exam, laboratory values, and imaging data in the chronic state to ensure appropriate replacement dosing
 - Interprets the abnormal findings in the context of the disease progression, developmental stage, and community support system
 - Reevaluates the course of therapy as new therapies develop and the patient progresses through developmental stages
2. Understanding the psychosocial and financial implications of chronic disease for families and children at various stages of development. (examples below but are not limited to those listed)



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- Evaluates the family and patient's ability to manage the endocrine disturbances in the outpatient setting
 - Interviews the parents/family about previous experience in the management of endocrine disorders
 - Gathers information on available support systems
 - Includes the family in a shared decision-making process
 - Provides counseling and education to families about requirements for long-term therapy and implications for patient health
 - Knows the relative costs of testing and intervention
 - Balances cost and patient discomfort with the likelihood of a test/procedure providing more definitive diagnosis or improving therapeutic decision-making
- Diabetes mellitus
 - Applies the glycemic guidelines established by professional organization (i.e., American Diabetes Association) for standards of care
 - Understands the importance of early interventions to prevent further progression to diabetic ketoacidosis
 - Screens for the potential comorbidities and complications associated with long-term diabetes
 - Provides counseling and education to families about empowerment of the patient as he/she transitions into young adulthood
 - Chronic adrenal insufficiency (i.e., Addison's disease, congenital adrenal hyperplasia)
 - Knows the importance of glucocorticoid replacement therapy and educates patient and families about stress dose coverage
 - Understands the different options in glucocorticoid replacement therapy and their advantages and disadvantages at various ages and stages of disease
 - Abnormal thyroid function
 - Applies the treatment and laboratory criteria for the management of children with abnormal thyroid disorders such as congenital hypothyroidism, Grave's disease, etc.
 - Monitors for and manages the potential side effects associated with under or over treatment of abnormal thyroid conditions
 - Hypoglycemia
 - Knows the therapeutic goals for treatment of hypoglycemia
 - Explains the different options in therapy depending on the age of the patient
 - Discusses management strategies for patient safety and parental comfort
 - Electrolyte imbalances (ex: hypo- and hypernatremia, hypo- and hypercalcemia)
 - Determines the chronic regimen needed to correct this disturbance
 - Manages the possible comorbidities associated with the chronic hormonal and electrolyte disturbances



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3. Developing and documenting a clear management plan for patients with chronic endocrinologic disease requiring hospitalization for surgery or acute illness
 - Determines and institutes inpatient and pre-procedural management plans
 - Provides counseling to families about management therapy needed in the peri-operative or hospitalization period
 - Type 1 diabetes
 - Determines and institutes the insulin regimen with respect to poor dietary intake or when given “Nothing by Mouth” (NPO) instructions
 - Knows how to interchangeably manage patients between insulin drips and subcutaneous insulin/insulin pump therapy
 - Adrenal insufficiency
 - Determines the glucocorticoid replacement therapy for before, during, and after procedure
 - Diabetes insipidus
 - Determines and institutes the vasopressin with respect to NPO instructions.
 - Knows how to interchangeably manage patients between vasopressin drips and DDAVP pills or nasal spray

During the management of rare diagnoses, continues search of the literature focusing on the highest-grade evidence available for the latest formulation of the diagnosis and therapy

 - Interprets the evidence in light of its grade
 - Applies the evidence to the care of the patient, given the particular context
 - Consults with others regarding available guidelines and other sources of evidence
4. Managing uncertainty (your own as well as that of the patient and family) as aspects of the care of these patients are often not immediately apparent at presentation or clearly defined in evidence-based descriptions of endocrine disorders
 - Communicates effectively with emergency, ICU, and other physicians, both verbally and through appropriate and timely documentation of recommendations
 - Engages in closed-loop communication for serious concerns
 - Knows the criteria and has the clinical judgment needed to transition the patient to a higher level of acuity and care
 - Discusses and considers the home environment in making decisions about management plans.
 - Explains risk/benefit of diagnostic testing and therapeutic interventions based on level of understanding of patient/family as well as their readiness to hear and process the information, balancing “bad news” with hope whenever possible
 - Discusses family level of comfort after hospital discharge and at follow-up visit if hospitalization occurs for an exacerbation of the chronic endocrine disorder
 - Determines family acceptability of working with community resources



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- Provides written and verbal “after visit” summaries
 - Transmits information to the emergency room visit and/or hospital stay about the chronic condition of the patient
 - Knows the preventative care necessary to avoid another acute exacerbation of the endocrine disorder counsels the patient/family accordingly
5. Coordinating care with the interdisciplinary health care team. The child with chronic disease needs the input of many professionals on the health care team as well as from community resources (e.g., school nurse, home health provider, support group). Thus, the entrusted professional must be able to communicate and partner with all members of the health care team.
- Identifies the care necessary for the management of the endocrine disturbance within the family and community resources, engaging new team members when necessary
 - Engages all members of the health care team, family, and community resources and encourages questions/input regarding recommendations for patient care
 - Identifies the members of the community support services and coordinates the care of the patient
 - Directly updates the primary care provider with a summary of the patient care

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