

EMCP 508: Renal, Metabolic, Endocrine, and Immunologic Emergencies

Renal and Urogenital Emergencies

At the end of the course the learner will integrate material covered in online lectures, reading assignments, and vignettes and apply this knowledge to clinical problem solving. Specifically, the learner should be able to:

1. Describe the clinical presentation, diagnostic evaluation, and ED treatment of acute renal failure.
2. Evaluate the indications for emergent hemodialysis
3. Compare and contrast the chronic complications of hemodialysis and peritoneal dialysis
4. Describe the management of vascular access associated hemorrhage in the HD patient.
5. Describe the clinical presentation, diagnostic evaluation, and ED treatment of urinary tract infections, including acute cystitis and pyelonephritis.
6. Compare and contrast the etiologies and diagnostic approach to acute testicular/scrotal pain, including: epididymitis, testicular torsion, testicular trauma, and orchitis.
7. Describe the clinical presentation, diagnostic evaluation, and ED treatment of Fournier's gangrene.
8. Describe the clinical presentation, differential diagnosis, diagnostic evaluation, and ED treatment of renal colic.
9. Name the differential diagnosis and diagnostic evaluation of hematuria.
10. Describe the potential complications of common urologic procedures including:
 - Lithotripsy
 - Ureteral stents
 - Urinary catheterization
 - Percutaneous nephrostomy

Metabolic and Endocrine:

At the end of the course the learner will integrate material covered in online lectures, reading assignments, and vignettes and apply this knowledge to clinical problem solving. Specifically, the learner should be able to:

1. Describe the clinical presentation, diagnostic evaluation, and ED treatment of acute complications of diabetes mellitus including:
 - Hypoglycemia
 - Diabetic ketoacidosis (DKA)
 - Hyperosmolar hyperglycemic nonketotic syndrome (HHNS)
2. Integrate the pathophysiology, diagnostic evaluation, and ED treatment of alcoholic ketoacidosis
3. Compare and contrast the clinical presentation and ED treatment of hyperthyroid states, ranging from thyrotoxicosis to thyroid storm.
4. Describe the treatment of hypothyroidism and myxedema coma.

5. List the common causes of primary and secondary adrenal insufficiency.
6. Describe the clinical presentation and ED treatment of adrenal crisis.
7. Evaluate the proper use and various dosages of corticosteroids in the treatment of adrenal insufficiency in the setting of physiologic stressors (e.g., sepsis)
8. Utilize arterial blood gas analysis in the evaluation of patients with acid/base disturbances
9. Describe the clinical presentation, diagnostic evaluation, and ED treatment of electrolyte disturbances including:
 - Hyper-/hypokalemia
 - Hyper-/hyponatremia
 - Hyper-/hypocalcemia
 - Hyper-/hypomagnesemia
 - Hyper-/hypophosphatemia

Immunologic Emergencies:

At the end of the course the learner will integrate material covered in online lectures, reading assignments, and vignettes and apply this knowledge to clinical problem solving. Specifically, the learner should be able to:

1. Describe the clinical presentation, diagnostic evaluation, and treatment of hypersensitivity reactions including:
 - Urticaria
 - Anaphylaxis
 - Angioedema
 - Drug allergies
2. Describe the common complications and treatment of common collagen vascular disorders including:
 - Raynaud's syndrome
 - Reiter syndrome
 - Systemic lupus erythematosus (SLE)
 - Scleroderma
 - Rheumatoid arthritis
3. Describe the clinical presentation, diagnostic evaluation, and treatment of problems that arise following transplantation (heart, lung, liver, kidney), focusing on rejection and complications of chronic immunosuppressive therapy.