

CAPTOPRIL TEST



CALCIFICATIONS, BLADDER

DESCRIPTION Bladder calcifications on CT or plain radiograph:

- Intraluminal: Bladder calculi, 7% of bladder urothelial carcinomas may be calcified and appear as small stones, encrusted cystitis, foreign body, iatrogenic (post op sutures, retained prostate chips, catheter fragments, hair (due to chronic self-catheterization), following intravesical BCG or mitomycin)
- Bladder wall: Infections (tuberculosis, schistosomiasis), squamous cell carcinoma, cyclophosphamide-induced cystitis, prior radiation treatment, amyloidosis

REFERENCE

O'Connor OJ. Imaging of hematuria. *Radiol Clin N Am* 2008;46(1):113–132.



CALCIFICATIONS, RENAL

DESCRIPTION They may represent calcified renal calculi or calcified cystic or solid renal neoplasms. Renal cell carcinoma is detectable on plain radiography and calcified ~8–18% of the time. Other possible etiologies for renal calcifications include papillary tip calcifications, calcified renal pelvis transitional cell carcinoma, nephrocalcinosis, calcified renal artery, and tuberculosis.

REFERENCES

O'Connor OJ. Imaging of hematuria. *Radiol Clin North Am* 2008;46(1):113–132.



CALCINOSIS, IDIOPATHIC SCROTAL

DESCRIPTION Occurs in preexisting epidermal cysts or in the dermis without cysts. Usually affects young men. Multiple cysts (>50) are not uncommon. Calcifications range in size from a few millimeters to 3 cm. They may represent epidermal cysts that have, over time, lost their normal wall and calcified. Surgical excision is curative if symptomatic.

REFERENCE

Ro JY, et al. Penis and scrotum. In: Bostwick D, ed. *Urologic Surgical Pathology*, 1st ed. St. Louis: Mosby, 1997.



CALCIUM LOAD AND FAST STUDIES

DESCRIPTION Tests performed to evaluate hypercalciuria in stone-formers. One method is to place patients on a low-calcium, low-sodium diet for 1 wk. A fast is performed from 9 PM–9 AM. At 7 AM, the patient empties his bladder. This urine is discarded. 600 mL of distilled water is then consumed. Urine is collected from 7 AM–9 AM. At 9 AM, 1 g of calcium is consumed, and urine is collected from that point until 1 PM. Urine samples are analyzed for calcium, creatinine, and cAMP. Results can then differentiate between absorptive hypercalciuria, renal hypercalciuria, and hyperparathyroidism. On a normal diet, 24-hr urinary calcium levels are considered <300 mg/d (7.5 mmol/d) in men and <250 mg/d

(6.25 mmol/d) in women. (See also Section I: "Urolithiasis, Adult, General"; Section I: "Urolithiasis, Calcium Oxylate/Phosphate"; Section II: "Hypercalciuria [Absorptive, Renal and Resorptive].")

REFERENCE

Rivers K, et al. When and how to evaluate a patient with nephrolithiasis. *Urol Clin North Am* 2000; 27(2):203–213.



CALCIUM SUPPLEMENTATION AND UROLITHIASIS

DESCRIPTION Oral calcium supplementation may be used for a variety of conditions, including osteoporosis. Because calcium carbonate and calcium phosphate are widely used but poorly absorbed from the intestinal tract, these can increase urinary calcium excretion and promote calcium oxalate/phosphate stone disease. Calcium citrate (Citracal) has 950 mg of calcium citrate and 200 mg of elemental calcium in each tablet and increases urinary calcium excretion. However, this formulation also increases urinary citrate excretion, which potentially offsets the lithogenic potential of the calcium supplement-induced hypercalciuria. If calcium supplementation is to be considered to prevent osteoporosis, calcium citrate preparations should be used. In women with a history of stone disease, consider a 24-urine collection to identify those who will become or remain hypercalciuric while on calcium supplementation. In patients who are normocalciuric while receiving calcium citrate, no further intervention is necessary. In those patients found to be hypercalciuric, treatment with thiazide diuretics or slow-release potassium phosphate can be used.

REFERENCE

Curhan GC, et al. Comparison of dietary calcium with supplemental calcium and other nutrients as factors affecting the risk for kidney stones in women. *Ann Intern Med* 1997;126(7):497.



CAMEY I AND II ORTHOTOPIC URINARY DIVERSION

DESCRIPTION In the Camey I surgery, a 40-cm segment of the midportion of the ileum is chosen for an orthotopic urinary diversion that can reach the urethra. A LeDuc antireflux ureteral ileal anastomosis is carried out on each end of the ileal segment. In the Camey II version, the initial Camey I diversion is modified by using 65 cm of ileum, which is detubularized along its antimesenteric border. It is folded into a U-shape configuration, the adjoining sides of the U are sutured, and the resulting bowel is then folded again to create a pouch anastomosed to the urethra with a LeDuc ureteral anastomosis.

REFERENCE

Lilien OM, Camey M. 25-year experience with replacement of the human bladder (Camey procedure). *J Urol* 2002;167(2 Pt 2):1161.



CANAL OF NUCK HYDROCELE AND CYST (FEMALE HYDROCELE)

DESCRIPTION In the female, the labia majora are homologous to the scrotum in the male. The labia

majora contain the terminal portion of the round ligaments of the uterus and an obliterated remnant of peritoneum similar to the tunica vaginalis, which may persist as the canal of Nuck. A hydrocele (fluid collection) may rarely form in the canal of Nuck.

REFERENCE

Dietrich CS, et al. Surgical exposure and anatomy of the female pelvis. *Surg Clin N Am* 2008;88(2).



CANDIDIASIS—CUTANEOUS, EXTERNAL GENITALIA

DESCRIPTION *Candida albicans*, the most common *Candida* fungus; rarely colonizes normal skin. Risk factors include the elderly, damaged skin, diabetes, broad-spectrum antibiotic use, steroids, pregnancy and immunosuppression. Can involve warm, moist areas such as distal urethra, scrotum, inguinal region, glans penis of uncircumcised male and cause itching, burning, discharge, dryness, and dysuria in females (vulvovaginitis). Vesicopustules that enlarge and rupture and progress to maceration and erythema. There are distinct red borders, often with satellite lesions with vaginal discharge being white and thick. Microscopic examination of scrapings or discharge with potassium hydroxide or Gram stain reveals hyphae/ pseudohyphae. (For Systemic candida, see Section I: "Fungal Infections, Genitourinary.")

TREATMENT

- Keep affected areas dry and exposed to air.
- Men: Topical Nystatin 100,000 U/d, miconazole cream QID
- Women vulvovaginitis: Oral fluconazole (single 150-mg dose) or topicals such as Nystatin 100,000–200,000 U/d for 1–2 wk. Clotrimazole troches or cream 100 mg/d for 3–7 days, others. More severe infections may require long-term ketoconazole

REFERENCES

Margesson LJ. Vulvar disease pearls. *Dematol clin*. 2006;24(2):145–155.



CAPTOPRIL TEST

DESCRIPTION As a functional test for renovascular hypertension, PRA (plasma renin activity) is measured before and 1 hr after the administration of 25 mg of captopril. The test is considered positive if all of the following occur: Post-captopril PRA >12 ng/mL/hr, an absolute increase in PRA >10 ng/mL/hr, and a 400% increase in baseline PRA (150% increase if the baseline PRA was more than 3 ng/mL/hr). A positive captopril test points to renovascular hypertension. The test has a sensitivity of ~74% and a specificity of 89%. All diuretics and ACE inhibitors must be discontinued 1 wk prior to the test, and a normal or light-sodium diet is necessary.

REFERENCE

Pickering TG, et al. Renovascular hypertension and ischemic nephropathy. In: Brenner BM, ed. *The Kidney*, 5th ed. Philadelphia: Saunders; 1996: 2106–2125.