however, the treatment decision should be considered in light of the patient's age, comorbidity and wishes regarding post-treatment health status.

Original article Kulkarni GS *et al.* (2007) Optimal management of high-risk T1G3 bladder cancer: a decision analysis. *PLoS Med* **4:** e284

Stress implicated in the etiology of benign prostatic hyperplasia

The excessive growth of prostate tissue and increased contractility that occurs in benign prostatic hyperplasia (BPH) causes uncomfortable lower urinary tract symptoms. BPH arises because of subtle dysfunctions in the sympathetic nervous system and the hypothalamic–pituitary–gonadal axis, both of which are highly susceptible to psychological factors.

Ullrich *et al*. examined the relationship between psychological stress and BPH using measured responses to a standardized laboratory stress test in a group of 83 men who had been diagnosed with BPH. All were asked to perform a standardized laboratory stress task; changes in blood pressure, testosterone and cortisol levels were measured during the task. The degree of physiological response was then examined for potential correlation with the severity of BPH disease. This was assessed by measurements of prostate volume, postvoid residual urine volume, urine flow rate, self-reported lower urinary tract symptoms, and impact and bother scores.

Analysis revealed that increased diastolic blood pressure reactivity was associated with more-severe BPH symptoms, including a greater transition zone volume, a greater total prostate gland volume, greater postvoid residual urine volume, more-severe lower urinary tract symptoms and greater impact scores. Increased cortisol reactivity was associated with elevated bother and impact scores.

The authors conclude that higher physiological responses in a standardized laboratory stress test in men with BPH are associated with more-severe BPH disease. They suggest that this is further evidence that stress could be involved in the etiology of prostatic hyperplasia.

Original article Ullrich PM *et al.* (2007) Physiologic reactivity to a laboratory stress task among men with benign prostatic hyperplasia. *Urology* **70:** 487–492

Early treatment of urinary tract infection prevents renal involvement

Early treatment of pyelonephritis has been suggested to limit the extent of subsequent renal damage, although this effect has not been demonstrated in prospective clinical trials and remains controversial. In a recent study, Doganis and colleagues investigated the correlation of renal scintigraphy findings with the time interval between the onset of fever and the initiation of antibiotic therapy in 278 infants (aged ≤12 months) hospitalized with a first urinary tract infection.

Antibiotic therapy was initiated a median of 2 days after the onset of fever (range 1–8 days). Overall, renal inflammatory changes were seen in 57% of the infants, with bilateral defects observed in 13% of these. The prevalence of renal defects increased with increasing time between fever onset and treatment initiation; defects were seen in 41% of infants treated within the first day of infection, and 59%, 68% and 75% of the infants treated on days two, three, and four or later, respectively ($P<0.0005$ for trend). In total, 76 patients had an abnormal scan in the acute phase of infection and underwent renal scintigraphy a second time (at a median of 6.5 months after fever onset). In these infants the frequency of renal scarring did not differ between those treated in the first 24 hours, and those treated later (46% vs 54%), suggesting that while early antibiotic therapy can reduce the likelihood of renal involvement, it does not reduce the likelihood of developing renal scarring once acute pyelonephritis has occurred.

Original article Doganis D *et al*. (2007) Does early treatment of urinary tract infection prevent renal damage? *Pediatrics* **120:** e922–e928

Successful treatment of female SUI with autologous myoblast and fibroblast injection

In female stress urinary incontinence (SUI), resting tone and contractibility of the rhabdosphincter are reduced, leading to incomplete closure of the urethra. Mitterberger and coworkers have evaluated the therapeutic potential of autologous myoblasts and fibroblasts, which have previously shown efficacy in animal

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models of SUI, for the regeneration of the rhabdosphincter and urethral submocosa.

In total, 119 patients with SUI and no more than mild hypermobility of the urethra and bladder completed 1 year of follow-up. Autologous myoblasts and fibroblasts were grown from biopsy samples of biceps muscle, and transurethral ultrasonography was used to guide their injection into the rhabdosphincter (myoblast suspension) and the urethral submucosa (fibroblast–collagen suspension). No complications were associated with the implantation procedure and no severe adverse effects were reported during the follow-up period.

At 1 year, 94 (79%) of the 119 patients were completely continent. The remaining patients showed substantial (13%) or slight (8%) improvement of continence; no deterioration of incontinence was observed. Compared with pretreatment measurements, improvements were seen at 1 year in Incontinence Score and Incontinence Quality of Life score, and also in the thickness, contractibility and electromyographic activity of the rhabdosphincter, representing clinical improvement in sphincter function. The improvements could not be attributed to a simple 'bulking effect' of the injections.

The investigators conclude that transurethral-ultrasonography-guided injection of autologous myoblasts and fibroblasts is a safe and effective treatment for female SUI, and that long-term multicenter replication of their data is warranted.

Original article Mitterberger M *et al*. (2007) Autologous myoblasts and fibroblasts for female stress incontinence: a 1-year follow-up in 123 patients. *BJU Int* **100:** 1081–1085

Transobturator method of treating SUI preserves normal clitoral blood flow

Tension-free midurethral sling procedures are now the preferred treatment for stress urinary incontinence (SUI) in women, as they are highly effective yet minimally invasive; however, risks associated with tension-free vaginal tape (TVT) include injury to the bladder, bowel and blood vessels. The transobturator (TOT) approach decreases the risk of complications, but whether it helps to preserve sexual function is unknown.

In a prospective, open clinical study, Caruso *et al*. monitored vascular function in the area around the urethra and clitoris in women with SUI before and after TVT or TOT. Translabial color Doppler ultrasonography was performed in 42 women undergoing TVT surgery, and in 63 women undergoing TOT. Blood flow in the clitoral arteries was measured before the procedure and 6 months later.

After treatment, women in the TVT group had a significantly lower mean pulsatility index and mean peak systolic velocity, and a significantly higher mean resistance index than before treatment, indicating a reduced and less-efficient blood flow after surgery. In the TOT group, however, values were similar before and after the procedure. TOT procedures were shorter than TVT because cystoscopy was not required, and no complications were reported (versus two bladder perforations in the TVT group). Objective cure rates were high in both the TOT and TVT groups (95.0% and 88.2%, respectively).

The authors conclude that the TOT procedure might be preferable to TVT in women with SUI because, as well as providing good cure rates for stress urinary incontinence, it conserves clitoral blood flow after treatment.

Original article Caruso S *et al.* (2007) Clitoral blood flow changes after surgery for stress urinary incontinence: pilot study on TVT versus TOT procedures. *Urology* **70:** 554–557

High survival rate after Mohs micrographic surgery for penile cancer

Mohs micrographic surgery (MMS) for dermatological cancers involves sequential tissue excision under microscopic control, with review of sections by the surgeon to ensure negative margins. The last case series reported of MMS for penile cancer was published in 1987; therefore, to provide a contemporary report, Shindel *et al.* reviewed their experience of penile cancer treatment with the technique.

The researchers identified 33 patients treated with MMS (41 procedures in total) for penile cancer at Washington University School of Medicine from 1988–2006. Five procedures were terminated because of urethral involvement or lesion size. The mean number of surgical stages was 2.6 ± 1.4, and the mean postoperative defect size was 3.6 × 3.0 cm. Primary repair or granulation was used to correct 13 defects, 4 were repaired by skin grafts and 25 were repaired with tissue flaps and urethroplasty. Follow-up data for 25 patients were available;

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