Blood samples were then collected and analyzed for arylamine–hemoglobin adducts of nine different ethyl- and dimethylanilines. The levels of these adducts in the blood relate to exposures up to several months previously.

Levels of all the arylamine–hemoglobin adducts tested were higher in bladder cancer patients than in the control subjects, and most of the differences were statistically significant. Regression analysis showed that three of the compounds—2,6-DMA, 3,5-DMA and 3-ethylaniline—were independent predictors of risk of bladder cancer. This was also the case when nonsmokers were considered separately: those in the highest quartiles had a threefold to fivefold higher risk of bladder cancer than those with lower levels of the adducts.

Other than cigarette smoking and use of some permanent hair dyes, the routes of exposure to arylamines are unknown. Since several of these compounds have been implicated in the development of bladder cancer even in nonsmokers, Gan *et al.* propose that it is now important to trace their environmental sources.

Original article Gan J *et al.* (2004) Alkylaniline–hemoglobin adducts and risk of non–smoking-related bladder cancer. *J Natl Cancer Inst* **96:** 1425–1431

Long-term treatment with dutasteride in BPH

Dutasteride has been investigated as a treatment for men with benign prostatic hyperplasia (BPH). The drug suppresses serum dihydrotestosterone (DHT) by selectively inhibiting both type 1 and type 2 5α-reductase isoenzymes. Prostate volume is reduced as a consequence, and other symptoms of BPH are improved. Debruyne *et al.* have recently reported long-term safety and efficacy results for dutasteride in this setting.

The new data were pooled from a 2-year open-label extension period that followed three randomized, phase III trials comparing dutasteride with placebo. A total of 2,340 men were included in the extension phase, all of whom received dutasteride 0.5 mg daily. In the preceding double-blind periods, patients had received dutasteride ($n = 1,188$; group D/D) or placebo ($n = 1,152$; group P/D) for 2 years.

A reduction in total prostate volume was seen in both study groups during the open-label phase, along with improvements in disease symptoms and urinary flow. Patients in the D/D group showed the greater improvement. The incidence of acute urinary retention and BPH-related surgery was low in both groups. Sexual adverse events tended to become less frequent with continued treatment, although a low incidence of gynecomastia persisted throughout the study.

In conclusion, the improvements in BPH disease measures seen in the phase III trials appeared to continue during long-term therapy, and Debruyne *et al.* note that the drug was well tolerated.

Original article Debruyne F *et al.* (2004) Efficacy and safety of long-term treatment with the dual 5α-reductase inhibitor dutasteride in men with symptomatic benign prostatic hyperplasia. *Eur Urol* **46:** 488–495

Long-term physiotherapy for female stress urinary incontinence

Conservative therapy is widely considered an appropriate first-line treatment for women with stress urinary incontinence, although few randomized controlled trials have been conducted in this area. A new study from Finland has compared clinic-based and home-based programs designed to improve the function of the pelvic floor muscles.

The 5-year study included 33 women with stress urinary incontinence. Those who lived more than 40 km from the hospital were allocated to home-based treatment ($n = 17$), which consisted of active pelvic floor muscle exercises and training with a vaginal ball. The remaining patients ($n = 16$) carried out a similar program and also received weekly electrical stimulation treatment at the outpatient clinic. All patients were instructed how to identify their pelvic floor muscles and were taught with biofeedback how to contract them.

Response to treatment was assessed using the urinary incontinence severity score (UISS) questionnaire, a 1-hour pad test and by measuring pelvic floor muscle strength. Both groups showed significant improvements at 4 months, 12 months and 5 years. The overall rate of cure or improvement in symptoms was 64%, with no significant difference between the groups.

GLOSSARY
PSA
Prostate-specific antigen

In summary, home-based therapy was as effective as a clinic-based approach in the long-term treatment of these patients. The authors note that electrical stimulation treatment is useful in women who are unable to carry out pelvic floor muscle exercises. They also recommend that thorough instruction, motivation and follow-up are provided.

Original article Parkkinen A *et al.* (2004) Physiotherapy for female stress urinary incontinence: individual therapy at the outpatient clinic versus home-based pelvic floor training: a 5-year follow-up study. *Neurourol Urodynam* **23:** 643–648

Bladder neck involvement predicts PSA recurrence

The classification of prostate cancer with bladder neck involvement as pT4 disease in the TNM staging system is controversial. Poulos *et al.* have studied the prognostic significance of bladder neck invasion in 364 consecutive patients undergoing radical prostatectomy.

Bladder neck involvement—defined as infiltration by neoplastic cells within the smooth muscle bundles of the coned bladder neck—was recorded in 22 (6%) of the prostatectomy specimens. Involvement was significantly associated with preoperative PSA level, PSA recurrence (defined as a PSA level of ≥0.1 ng/ml), high pathological classification (using the 1997 TNM system), larger tumor volume, positive surgical margins or extraprostatic extension. Multivariate analysis showed that bladder neck involvement was an independent predictor of early PSA recurrence: adjusting for pathological classification, Gleason score and surgical margin status, PSA recurrence was approximately three times more likely in men with bladder neck involvement than in those without (adjusted odds ratio 3.3, 95% confidence interval 1.04–10.03, $P = 0.04$).

This is the first demonstration of the independent prognostic significance of bladder neck invasion in prostate carcinoma. The authors note that the results should be considered preliminary, since the sample size was small and the mean follow-up was only 14 months. They conclude, however, that tumors with bladder neck involvement should be placed in a category that reflects their prognostic significance.

Original article Poulos CK *et al.* (2004) Bladder neck invasion is an independent predictor of prostate-specific antigen recurrence. *Cancer* **101:** 1563–1568

Docetaxel in advanced prostate cancer

Mitoxantrone plus a corticosteroid is an established palliative treatment for men with metastatic, hormone-refractory prostate cancer. A recent international study has compared this approach with two docetaxel regimens, in an attempt to improve survival in these patients.

The TAX 327 trial included 1,006 men with advanced prostate cancer, all of whom received daily, low-dose prednisone. In addition, patients were randomized to mitoxantrone ($n = 337$), docetaxel every 3 weeks ($n = 335$), or lower doses of docetaxel given weekly ($n = 334$). Outcomes were compared between the three treatment groups after a median follow-up of approximately 21 months.

Median overall survival was significantly longer in men who received docetaxel every 3 weeks than in those treated with mitoxantrone (18.9 vs 16.5 months; hazard ratio for death 0.76, 95% CI 0.62 to 0.94, $P = 0.009$). The difference in survival between the weekly docetaxel and the mitoxantrone group was not significant. Reductions in pain, improvements in quality of life and PSA responses were more frequent in both docetaxel groups than in the mitoxantrone group. This was tempered, however, by an increase in low-grade adverse events with docetaxel treatment.

Concluding that docetaxel plus prednisone significantly prolonged survival in this study, the authors suggest that this option is preferable to standard, palliative treatment in most patients. They propose that docetaxel should be given at 3 week intervals for convenience, since the weekly schedule provided no additional benefit.

Original article Tannock IF *et al.* (2004) Docetaxel plus prednisone or mitoxantrone plus prednisone for advanced prostate cancer. *N Engl J Med* **351:** 1502–1512

Advances in intestinal urinary conduit formation

Revision or conversion to an intestinal urinary conduit is sometimes necessary in patients who have undergone augmentation cystoplasty or urinary diversion. This is usually achieved by constructing a *de novo* ileal conduit. In an attempt to avoid the problems of additional bowel shortening and new bowel and ureteral