

## URINARY TRACT OBSTRUCTION

## Optimizing removal of ureteral stents

Forgotten stents are a urological challenge, responsible for both patient morbidity and considerable cost to the health-care system. Two new studies from a research group in Turkey describe attempts to relieve some of the burden of stent retrieval; one reports a novel cellphone-based reminder system, and the other a cheaper method of removal.

For the first study, published in *Urological Research*, investigators developed a computer program that automatically sends a text message to both the patient and attending surgeon when the stent should be removed. Coauthor Abdulkadir Tepeler recalls how the idea came to him after receiving a text from his insurance company, reminding him to pay his bill. Initial results of their work are positive. "In a 2-year period we did not observe a single patient with a forgotten ureteral stent," says Tepeler.

All patients in Turkey have their contact information and any procedures they undergo routinely recorded in a computerized database every time they visit a hospital. Tepeler and colleagues integrated a Stent Register Program into their hospital's database, which required

the surgeon to record the optimal stent life (OSL) at the time of insertion. Then, a Stent Extraction Reminder Program was activated daily to automatically contact patients whose OSL had been exceeded.

108 patients who underwent ureteral stenting between May and November 2010 were sent reminders using this system, and their stents were removed an average of 14.6 h (range 5–36 h) after the predetermined OSL. Patients who were only warned verbally, on the other hand, presented to hospital a lot later ( $n = 78$ ; mean 307 h; range 72–1,344 h;  $P < 0.0001$ ).

Teleper and his coauthors believe the main advantage of their method over other reminder systems is that both the patient and the physician are contacted. In this litigious era, forgetting to remove a stent could lead to an expensive lawsuit, so removing the possibility of surgeon negligence is especially relevant.

In the second study, published in *Urologia Internationalis*, the authors suggest that ureteroscopic stent retrieval should be used instead of the current standard of cystoscopy. Patients were randomized to undergo removal by either flexible cystoscope ( $n = 35$ ) or rigid



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ureteroscope ( $n = 32$ ). Assessment for operative pain, stented time, operative time, postoperative pain, irritative voiding symptoms and hematuria revealed no statistically significant differences between the two methods; however, the costs were very different. The total selling and maintenance costs of a flexible cystoscope were calculated to be US\$20.399 and \$197.8, respectively, compared to \$10.516 and \$51.7 for a ureteroscope. With equivalent operative parameters, it seems prudent to choose the cheapest option.

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**Original articles** Sancaktutar, A. A. et al. A solution for medical and legal problems arising from forgotten ureteral stents: initial results from a reminder short message service (SMS). *Urol. Res.* doi:10.1007/s00240-011-0404-8 | Soylemez, H. et al. A cheap minimally painful and widely usable alternative for retrieving ureteral stents. *Urol. Int.* doi:10.1159/000327610