

March 2010



Please add newsletters@npdinc.com to your address book to ensure future delivery of NorthPoint Domain newsletters to your inbox (not bulk or junk folders).

NorthPoint Domain Inc.  
One Joy Street  
Boston, MA  
02108-1403 USA

(800) 603-1420

www.northpointdomain.com  
memberservices@npdinc.com

## Theoretical Foundation Bolsters Effect of Internet Interventions

**More extensive use of theory, and supplementary tools such as email and text messaging, contributes to greater behavior change**

Internet-based health interventions have greater impact when they are grounded in science theory, according to a study published recently in the *Journal of Medical Internet Research*. Incorporating multiple behavior change techniques and modes of delivery also increases their power.

Prior research indicated that health promotion interventions delivered via the Internet have positive yet variable effects on behaviors such as tobacco use, physical activity, and diet. No data existed regarding effectiveness of the different strategies, so the authors of the current study sought to investigate. They used a recently developed behavior change coding system to identify the characteristics of successful programs and to assess how theories and

various delivery methods affected results.

The authors conducted computerized searches of Web of Science conference proceedings, BIOSIS Previews, and Medline, and included randomized trials involving Internet-based

**Interventions based on the theory of reasoned action/ planned behavior appeared to have the most positive impact on patients' behavior.**

programs that measured a health-related behavior after the intervention. Eighty-five studies met these criteria. Mode of delivery was divided into automated functions such as testimonials and games or reinforcing

messages, communicative functions such as discussion boards or "Ask-the-Expert" capabilities, and supplementary functions such as email and videoconferencing. A wide variety of theoretical tools were employed in the studies. The three most frequent ones were social cognitive

*continued on page 2*

... Theoretical Foundation Bolsters Effect of Internet Interventions  
*continued from page 1*

theory, the transtheoretical model, and the theory of reasoned action/planned behavior.

Analysis revealed a larger effect in studies utilizing theory — and increasing effect when more than one theory was used — especially in interventions that targeted one specific behavior versus multiple behaviors. Interventions based on the theory of reasoned action/planned behavior appeared to have the most positive impact on patients' behavior. This theory states that an individual's behavior is determined primarily by his or her intention to perform an action, which is a product of attitude, subjective norms, and perceived efficacy. The authors noted that subjects were influenced more by others' behavior than by others' approval. Interventions addressing stress management or general communication skills training had the largest effects overall. Also, use of communica-

tion functions, particularly access to an advisor, text messages, and email, in conjunction with the Internet intervention, was highly effective.

The authors concluded that more study is necessary, but that their review "provides a framework for research that can contribute to a science of Internet-based interventions and our findings provide a rationale for investing in more intensive theory-based interventions that incorporate multiple behavior change techniques and modes of delivery."

**Source:** Webb TL, Joseph J, Yardley L, Michie S. 2010. Using the Internet to promote health behavior change: a systematic review and meta-analysis of the impact of theoretical basis, use of behavior change techniques, and mode of delivery on efficacy. *Journal of Medical Internet Research* 12(1):e4.

## Study Finds Ketorolac Loaded Stent Safe and Effective

**Although the endpoints were not met, the authors say the results are encouraging**

A study published in a recent issue of *The Journal of Urology* confirmed the overall safety of the ketorolac-loaded (KL) stent. Although there were no significant differences in primary or secondary intervention rates, a trend toward a treatment benefit was noted for patients receiving drug-loaded stents. Specifically, young male patients appeared to require less pain medication when the KL stent was used.

Ureteral stents are routinely used after ureteroscopy to maintain urinary flow to the bladder. Although stents are clinically useful, the authors point out consequences associated with ureteral stents, such as significant flank, bladder, groin, and genital discomfort. To limit stent pain, one device maker has developed a KL ureteral stent, which showed promising results in pre-clinical porcine studies.

For the current study, the authors evaluated the short-term safety and efficacy of a KL stent compared to a standard stent via a prospective, multicenter, double-blind study.

The researchers enrolled 276 men and women age 18 years and older undergoing ureteroscopy for

diagnosis or stone removal. Patients required a stent for 4 to 10 days and randomly received a KL stent or a standard stent (control). The primary endpoint was intervention for pain, defined as an unscheduled clinic visit, change in pain medication, or early stent removal. Secondary endpoints included intervention due to stent, pain medication

use, visual analog score assessed pain, and patient satisfaction using a 5-point scale. Primary and secondary intervention rates were not significantly different (9.0 percent KL stent compared to 7.0

**Future studies should consider focusing on post-operative ureteral stent pain within 2 to 4 days of surgery in highly sensitive pain cohorts to improve the ability to discern differences between stent designs.**

*continued on page 4*

... Study Finds Ketorolac Loaded Stent Safe and Effective  
*continued from page 3*

percent for controls for primary interventions and 22.6 for KL stents compared to 25.2 percent for controls in secondary intervention). Mean pain pill count at day 3 was lower in the KL stent group than in the control group. More male patients with KL stents used no pain medication on days 3 and 4 compared to female patients with KL stents, and male and female control patients. Younger male patients appeared to require less pain medication immediately after surgery when the KL stent was used. There was no increased risk of adverse effects between the KL group and controls.

“Future studies should consider focusing on postoperative ureteral stent pain within 2 to 4 days of surgery in highly sensitive pain cohorts to improve the ability to discern differences between stent designs,” the authors conclude.

**Source:** Preminger GM, Krambeck AE, Walsh RS, et al. 2010. A novel drug eluting ureteral stent: a prospective, randomized, multicenter clinical trial to evaluate the safety and effectiveness of a ketorolac loaded ureteral stent. *The Journal of Urology* 183:1037-1043.

## Hot Topic Highlights

*Urology Domain recently posted the following Hot Topic to your website:*

### **Photoselective Vaporization Helps Urinary Symptoms Caused by Enlarged Prostate**

A treatment for enlarged prostate called photoselective vaporization of the prostate (PVP) effectively improved lower urinary tract symptoms associated with the condition, according to a study published in *The Journal of Urology*. The researchers followed 150 men with lower urinary tract symptoms and bladder outlet obstruction who were treated with PVP, following them for a year. Urine storage and voiding symptoms decreased over time, as did prostate-specific antigen levels. Sixty-seven percent of men reported retrograde ejaculation, a side effect in which semen flows into the bladder during ejaculation.

**Source:**

De Nunzio C, Miano R, Trucchi A, et al. 2010. Photoselective prostatic vaporization for bladder outlet obstruction: 12-month evaluation of storage and voiding symptoms. *The Journal of Urology* 183:1098-1104.