



Clinical Digest

PATIENT SAFETY

“Smart” Surgical Markers Approved

The FDA has okayed a “smart” surgical marker tag to help reduce the likelihood of wrong site, wrong procedure, and wrong patient surgeries. The SurgiChip Tag Surgical Marker (SurgiChip Inc, Palm Beach Gardens, FL) is the first surgical marker to use radio frequency identification (RFID) to mark an anatomical site for surgery.

The system consists of the tag, an integrated passive transponder, a printer, an encoder, and an RFID reader. The patient’s name and surgical site are printed on the tag, which is encoded with the date of surgery, type of procedure, and name of surgeon. The tag is scanned with the RFID reader for confirmation by the patient and is placed in the patient’s file. On the day of surgery, the tag is removed from the file, scanned again, and reverified by the patient. The tag, which has an adhesive backing, is placed on the patient’s body near

the surgical site. In the operating room the tag is again scanned and verified against the patient’s chart. The tag is removed just before surgery and returned to the patient’s file.

Source: FDA News Release. November 19, 2004.

WOMEN’S HEALTH

Behind the Hot Flash

As common as the perimenopausal hot flash is, its physiology isn’t well understood. That’s why three researchers from University of California, San Diego took a serendipitous opportunity to study the hot flashes of a 46-year-old woman participating in their study on sleep, stress, and hypertension. At enrollment, the woman had reported having hot flashes. Since the design of the study called for continuous blood pressure monitoring of participants, the researchers were able to capture what was going on when this patient had a hot flash during a resting baseline period of the testing.

The technician observed that the woman was

sweating profusely when she reported the hot flash. Simultaneously, she experienced a blood pressure drop of more than 40 mm Hg, followed quickly by a rise in heart rate (as is typical of the baroreflex response to an acute hypotensive episode). Recorded blood pressure and heart rate were relatively stable among four other female participants of similar body mass index, blood pressure levels, and age, none of whom reported having hot flashes during testing.

The researchers note that thermogenic changes occurring during a hot flash have been speculated to be baroreflex-related. When they tested baroreflex tone by having participants inhale the vasodilator amyl nitrite, a number of the menopausal women spontaneously reported that they felt as though the medication was giving them a hot flash.

These observations, researchers say, give new depth to the understanding of vasomotor instability, long reported to be a hallmark of perimenopause. They suggest that, given the corrective role of the

baroreflex in this setting, perimenopausal symptoms might be more severe in women whose baroreflex functioning is impaired, such as those with autonomic neuropathy.

Source: *N Engl J Med*. 2004; 351:1577–1579 [research letter].

GERONTOLOGY

Metabolic Syndrome Linked to Cognitive Decline

Older people with metabolic syndrome are more likely than elders without the syndrome to have cognitive impairment, according to findings from a five-year prospective study of 2,632 patients at two community clinics in Memphis, TN and Pittsburgh, PA. The researchers used the National Cholesterol Education Program III guidelines to define metabolic syndrome as at least three of the following: waist circumference greater than 88 cm for women or 102 cm for men, hypertriglyceridemia, low high-density lipoprotein cholesterol level, high

blood pressure, and high fasting glucose level. They also found that those with metabolic syndrome and high inflammation (defined as having greater than median serum levels of interleukin 6 and C-reactive protein) had a statistically significant relative risk (1.66) of cognitive impairment. Although several of the components of metabolic syndrome have been linked independently with cognitive decline, the researchers believe theirs is the first study to document the connection between this cluster of disorders and cognitive impairment.

This association was lessened somewhat when patients with such clinically significant diseases as diabetes, hypertension, and hyperlipidemia were excluded. But the fact that a pattern of increased risk was still observed after exclusion, say the researchers, implies that the adverse effect of the metabolic syndrome is related, but not solely due, to these conditions.

One possibility they propose is that a vicious cascade ensues: The metabolic syndrome contributes to an accelerated atherosclerosis associated with an inflammatory response; in turn, the atherosclerosis, the inflammation, or both contribute to cognitive decline.

Source: *JAMA*. 2004;292:2237-2242.

GYNECOLOGY

Bacterial Vaginosis and PID

Screening for bacterial vaginosis isn't the way to prevent pelvic inflammatory disease (PID), say researchers for the GYN Infections Follow-through Study. Although the two conditions often occur together, bacterial vaginosis does not increase the risk of PID.

The researchers evaluated 1,179 women from five U.S. centers for four years. Every six to 12 months, they obtained vaginal swabs. At baseline, 471 women had bacterial vaginosis. Overall, the incidence of PID during follow-up was similar between women who had normal flora (9.5%), intermediate flora (10%), and bacterial vaginosis (12%) at baseline. After adjusting for factors such as condom use, history of gonococcal or chlamydial infection, and history of PID, bacterial vaginosis at baseline raised the risk of PID only in a subgroup of women who reported two or more sexual partners in the previous two months.

A baseline infection with *Neisseria gonorrhoeae* or *Chlamydia trachomatis*, however, did substantially raise the risk of PID. In fact, gonococcal or chlamydial infection tripled the risk of PID

among the 445 women with bacterial vaginosis at follow-up who had 41 PID events. Their data also indicated that acute but not baseline carriage of anaerobic gram-negative rods significantly elevated the risk of PID, suggesting that a new infection might trigger PID.

Source: *Obstet Gynecol*. 2004;104:761-769.

PREVENTIVE MEDICINE

Thwarting Diabetic Foot Ulcers

Giving patients with diabetes a handheld infrared skin thermometer can help prevent foot ulcers, say researchers who conducted a six-month study of 85 patients in high risk diabetic foot clinics at the University of Texas Health Science Center at San Antonio. They separated the patients into two groups. Both were to receive standard therapy of therapeutic footwear, diabetic foot education, and foot evaluation every 10 to 12 weeks. In addition, the second (enhanced therapy) group used the infrared skin thermometer to measure temperatures on the sole of the foot in the morning and evening. If the temperature in one foot measured more than

4° F higher than the opposite foot, it was considered a sign of impending inflammation and ulceration.

The clinical outcomes were significantly better in the enhanced therapy group. Patients in the standard therapy group were 10 times more likely to develop foot complications. Nine (20%) of the patients in the standard therapy group had diabetic foot complications: seven ulcers and two Charcot fractures. Two of the patients developed infections and required local foot amputations. By contrast, only one patient in the enhanced therapy group (2%) developed an ulcer, and none had infections, amputations, or Charcot fractures.

Even among well informed and highly motivated patients, the researchers say, there's a high rate of recidivism with diabetic foot complications. Most patients have severe sensory loss, and they're often obese with limited hip and knee mobility as well as visual impairment—all of which make self-inspection and identification of early foot disease difficult. Ultimately, the researchers say, patients may be able to "dose their activity" by checking their skin temperature—just as many dose their insulin by checking their blood glucose. ●

Source: *Diabetes Care*. 2004;27:2642-2647.