If I keep my eyes and ears open, I find that I regularly (and often surprisingly) come across compelling stories to pass along to y’all. Wednesday was one such situation. I’m traveling right now because my friend had a medical procedure and I’m acting as her rehab caregiver. During the pre-procedure briefing, the nurse swiped a handheld electronic device across my friend’s temples and forehead, then down one side of her neck. My curiosity was piqued; the unit ended up being a thermometer. And then my curiosity was even more piqued; my friend has a traditional digital thermometer that, after several fresh battery replacement attempts on my part, still stubbornly insists that its power source is ‘low’ and gives respectively low temperature readouts (I’ve decided that the unit, not its battery, is on the fritz and a new one is on the way). It was a temporal artery sensor infrared thermometer from a company called Exergen:

With it, there’s no worry about measurement tip misplacement in the patient’s mouth, leading to inaccurate results. There’s also no need to clean the unit prior to re-using it, since the sensor head employs an antimicrobial tip. And my friend’s nurse said that it’s extremely accurate. Coincidentally, yesterday I saw an on-sale notice for an even more elaborate setup; a no-contact infrared
thermometer of the sort that I came across in Taiwan two summers ago. $25.99; not a bad price.

Once I got the nurse talking tech, there was no stopping her. Granted, this is someone who admitted to me that she’d owned every generation of iPhone to date and was planning to be first in line at her local retailer when the iPhone 4G goes on sale later this month, so she was perhaps more amenable to such topics as compared to the average person. But her enthusiasm was infectious and provided welcome validation of the healthcare business potential that numerous semiconductor suppliers have pursued in recent years.

The next widget she showed me was the Hb 201 DM blood analyzer from HemoCue:

Traditionally, if blood needed to be drawn and analyzed, it was a lengthy, costly, frustrating and potentially inaccurate procedure. The patient might need to leave the facility, drive to another one, fill out more paperwork, wait in line...then there was always the potential for a patient’s results to get lost or inadvertently swapped with those of someone else.

With the Hb 201 DM, on the other hand, the nurse first scanned her (badge) and my friend’s (wrist strap) identification barcodes. She then drew a sample of my friend’s blood into a microcuvette and inserted it into in the portable analyzer, which spat out a hemoglobin measurement in a matter of seconds. The results were wirelessly (infrared) transferred to a base unit, which then dumped them
into my friend’s database.

The nurse also mentioned recent improvements that had been made in pulse oximeters for blood oxygen saturation and heart rate measurements:

Traditionally, the equipment reading had required a clear visual path to the flesh behind the fingernail, which compelled medical staff to regretfully ruin patients’ expensive nail polish salon jobs. Newer pulse oximeters, according to the nurse, take their readings from the backside of the finger and therefore don’t necessitate nail polish destruction.

The final device the nurse spoke at length about wasn’t overtly electronic in nature, but still spoke to the same cost-reduction and procedure-simplification trends that I’ve already touched on above. Pre-surgery, nervous patients often become chilled and begin to shiver. An even stronger reaction of this same sort post-dates surgery, as the body struggles to shake off the effects of anesthetic. Traditionally, several layers of warm blankets were used to counteract these patient reaction tendencies; downsides included substantial needed storage space, along with a requirement to thoroughly wash the blankets prior to re-use.

Nowadays, the hospital uses the Bair Paws system from Arizant Healthcare (no, this picture isn’t of my friend):
The patient wears a disposable paper gown, containing several internal compartments and a unified front pocket for hand-warming purposes, throughout his or her time at the hospital. Also included are a hair net and a warm pair of socks with traction patterns. Pre-surgery, a heating tube is attached to a vent in the gown near the right hip, as shown in the picture; the patient can adjust the temperature for optimum comfort. Post-surgery, a larger tube (and heating blower feeding it) connects to a different vent in the gown, in the area of the left shoulder. Upon discharge, the gown and hairnet are disintegrated; the patient gets to keep the socks. And speaking of socks, I should also mention the ActiveCare DVT (deep vein thrombosis)-preventing intermittent pneumatic compression sleeves that the nurse had velcro’d to my friend’s lower legs, to prevent Dan Quayle-reminiscent clots during surgery (once again, this picture is not of my friend):
The nurse admitted, when I asked her about the pace of technology innovation at the hospital, that the primary barrier to an embrace of new ways of doing things was an entrenched cultural attitude of the ‘this is the way we’ve always done it, and this is the way we’re always going to do it’ sort. I wasn’t surprised by her response, and in fact I really appreciated her candor. Nonetheless, I was encouraged by the small tech success stories I heard about earlier this week. And I’m hopeful that they’re the tentative first steps towards a more wholehearted embrace of technology by the healthcare industry in the future, one that promises to reduce costs, speed results (and accuracy of results), and bottom-line provide a higher quality of life for patients.

Happy weekend, all.