

D R. T O M O R R O W <sup>TM</sup>

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LESSONS FROM THE FUTURE <sup>TM</sup>

THIS THERMOMETER YOU SWALLOW

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One of the big worries mothers have had in the past, when taking children's temperatures, was the possibility of their swallowing the thermometer with obvious resulting complications. These days are over. The latest thermometer must be swallowed. It is disposable and inexpensive. Good for kids or adults. Times are changing.

This latest bit of technology is called "CorTemp". More accurate than other thermometers, CorTemp gives a full continuing report while travelling through, or stationed at, a desired fixed position in the body. If life signs slip into a caution zone, CorTemp sends out an audible "beep" to alert medical staff, but allows them to continue other work when your condition remains satisfactory. Depending on details desired, the unit is broadcasting an information-loaded signal to a nearby bed-monitoring unit that allows both a visual and/or hard copy printout of intestinal thermal fluctuations accurate to one-tenth of a degree Centigrade accuracy.

Prior to CorTemp, catheters and other expensive probes were necessary to determine temperature readings in hard-to-reach portions of the human anatomy.

Developed by Dr. Leonard Keilson of The Applied Physics Laboratory of The John Hopkins University in conjunction with NASA, this latest technology provided more accurate temperature measurements than previously possible with no discomfort to the patient.

Utilizing a broadcast technique known as "Near Field Magnetic Link", transmission does not require any connection between the travelling sensor and the receiver. A smaller unit for use with ambulatory patients hooks on to the patient's belt as he goes about routine daily duties. All silver-oxide batteries and electronic sensing equipment are contained, in highly-miniaturized form, in that pill that was swallowed. Depending on readings required, CorTemp can last up to eight days or more -- and in some circumstances as long as six months if only hourly readings are necessary. The battery is good for a minimum of 200 hours. In most cases the time period required is but 24 to 72 hours. The unit can even be turned on or off by an enclosed magnetic switch!

The CorTemp Bedside Receiver monitors body temperature even during surgery. A very thin receiving coil which can be placed under a sheet or mattress pad routes the signal to the bedside receiver. The patient is not connected in any way. Settings can be adjusted for readings every 30 seconds or once an hour. The Bedside Monitor retains all readings up to the memory maximum of 4500 readings. The complete long-term picture can then be transferred to a personal computer for printing or further analysis. Multiple sensors can extend the readings and details.

With the Ambulatory Monitor signals from the "pill sensor", changing magnetic-flux is used to show, on a built-in two-line liquid crystal screen, both time and temperature (in Centigrade or Fahrenheit) which is then stored in solid-state memory. The unit has 10 buttons which the patient or supervisor can control depending on events. Signals covering battery changes or loss of sensor, via the digestive track, are also built-in.

As a new research tool CorTemp applications appear unlimited. Coupled with direct digital output connections to allow interfacing with existing computers or specially-designed instrumentation, this unit can measure most changes in certain thermal ranges. Because this Near Field Magnetic Link has a maximum transmission range of less than two feet, signals from several patients in the same room remain isolated. CorTemp can be used as an aid to fertility determination, in sports medicine, for sleep studies, obesity, circadian rhythm or metabolic studies -- even in such unusual situations as geriatric hypothermia, heat stress as experienced in military training, high temperature industrial environments and with city and forest firefighters.

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