A look at some medical electronics.

Some Alternates

I have personally found the best of alternate medicine to be exceptionally useful in prevention and dealing with chronic problems. While a traditional medicine is by far your better choice when working with urgent repairs.

There’s a lot that’s very good and very bad about both routes. I also do believe that most medical problems are your own dumb fault. Caused or made worse by lifestyle, activity, and diet considerations.

Your key secret to dealing with any problem, medical or otherwise, is to get multiple information from several independent sources. If you are dealing with a single source of medical info, the chances are more than good there may be hidden agendas or some cross purposes not in your best interest.

Second opinions are crucial.

Much more on these topics can be found in DONTSICK.PDF and in those alternate medicine links you can find at www.tinaja.com/beewb01.html

Essential alternate medical reading is anything by or about Dean Ornish or most books relating to the Pritikin clan. Yes, "wash it down with a steak" near-vegetarianism seems to work like a champ. At least for me.

Medline

The definitive online research tool that all doctors and medical pros use is called Medline. Any time you want to know anything about any medical topic, it is just common sense to go to Medline for a second or third opinion. Sadly, Medline has been outrageously expensive. But a number of sites are now offering you free Medline access of one type or another.

One superb Medline access site is Health World at www.healthy.net. The second is American Health Network at www.ahn.com. Other gateway sites for medical stuff are Emory University’s at www.gen.emory.edu/medweb and the folks at www.medaccess.com

Convenient click-through links to all of these and a few others are found at www.tinaja.com/beewb01.html

Medical Electronics Products

This is one of many free "shopper" industry trade journals which address medical electronics. Here’s some more journals and shoppers...

Biomedical Instrumentation and Technology
Medical & Biological Engineering and Computing
Medical Design Technology
Medical Devices Report
Medical Electronics & Equipment News
Medical Electronics and Medical Electronic Products
Medical Electronics Manufacturing
Medical Equipment Designer
Medical Product Manufacturing News

As an aside, there’s a company that specializes in those antique scientific instruments from the 16th to the 19th centuries. Find them at Early Scientific Instruments. And scads of intriguing books on turn-of-the-century science and technology can be found through Lindsay at www.lindsaypub.com Or use his banner link on my website.

Fun With Dentists

I may have actually found a use for dentists. Several actually.

Firstoff, they have these wonderful X-ray machines. Which are just dandy for snooping around inside of sealed modules such as telephone interface
blocks or pulse monitors. Yeah, their film size is tiny and their res isn't that great. But, with practice, you can tell an awful lot about a chip simply by looking at its number of pins, its lead frame, and its die size.

Secondly, you might think of your dentist as a precision machine shop. I once needed a shaft coupling for a HP Distortion Analyzer. A little grinder worked on a delrin rod, and an tricky to get item was cheaply substituted.

Dentists could be highly useful for carved shapes (such as odd connector cases or proof-of-concept plastics), to "unencapsulate", or simply for elegant mechanical design.

Some dental products may have all sorts of unintended uses. A few years ago, there was an introduction of new disposable low cost handpieces. These were basically a small and powerful turbine that could be cut down to fit inside a plotter pen. And had all sorts of printed circuit, mini-CAD machine, and other fluffwerumper uses. A few details appeared in HACK7.6.PDF And there’s great heaping bunches of light curing plastics and other items.

One of several trade journals here is Dental Products Report. More on some of these mini-turbine possibilities at www.tinaja.com/flut01.html

Finally, certain dentists seem to get off on all those perpetual motion and overunity energy scams. So, better to let them buy those overpriced videos and books. Then, you’ll borrow these fiction works for utterly fascinating fantasy reading and viewing. Of the mesmerizingly awful.

More info on pseudoscientific topics at www.tinaja.com/pseudo01.html

Pulse Monitors

There sure appears to be a bunch of interest in pulse monitors lately. I’ve personally found these exceptionally useful for working around some long term medical problems. Others apply them extensively for aerobics.

There are two popular types. One low cost solution is the plethysmograph that clips onto a finger, a toe, or your earlobe. These operate on finger or toe capillaries expanding and contracting on each heart beat. They often consist of an infrared LED photoreactor. The problem is that motion artifacts make these totally useless for aerobic exercise programs. Instead of the Polar Edge. These consist of a chest strap that has two sensing conductors and a small transmitter. A separate “wristwatch” receiver senses and displays the pulse information.

The transmitter converts each pulse beat into a burst of roughly 35 cycles of 5 kiloHertz sinewaves. The receiver detects the sinewave bursts and then averages and displays them.

You can think of this system as an ultra low frequency pulsed-CW radio transmitter. Or as a loosely coupled higher frequency audio transformer. Either way, a computer interface can be easily built. You can even sense the signal using an eight inch loop of wire on a scope probe. Since you are very much in the near field, ranges above five feet or so will be hard to do.

Gotchas here include the nulls of the ferrite rod transmitter in the chest unit; making sure any other ferrites or cores used offer decent Q and good permeability at 5 kHz; and working out a suitable averaging algorithm for a stable yet current display. It would seem that a four beat running average is a pretty fair starting point.

Interesting books on this subject do include John Parker’s Heart Monitor Training for the Complete Idiot, and Ed Burke’s Precision Heart Rate Training. I have placed links to these and others to www.tinaja.com/amlink01

Tech details, sources, software, and insider info on pulse monitors can be found in HACK68.PDF. I’ve also got InfoPacks available on this.

Disabilities

We looked at several disability and handicapped resources way on back in RESBN44.PDF. Chances are that if you have come up with a “solution” to some limited hearing or limited vision problem, others are likely to already have a better approach. It also seems to me that there are lots of hidden agendas in the disability “industry” that you should be aware of. Profits are also exceptionally elusive.

At any rate, one extremely useful gateway resource is Trace Center. They appear to have the definitive CDROM resource bases on handicapped and disability aides. A bimonthly mag on using microcomputer technology for the disabled is Closing the Gap. One that targets children with disabilities is the Exceptional Parent.

Useful newsgroups include...

alt.comp.blind-users
alt.disability.blind.social
alt.disscuss.disability
alt.education.disabled
alt.society.deaf

FREE Catalog: http://www.tinaja.com
The Placebo Effect

A patient that wants to get better and believes they are taking positive steps towards a "cure" is often much more likely to actually do so. This is called the placebo effect. Placebo effects are very real and very powerful. As such, they often mask whether some process or medicine is useful.

A lot of the locals around here seem to get off on "arthritis cures" that are very real and very powerful. As such, they often mask whether some process or medicine is useful.

And realize, that, the further you get to a far out (or far off) device to the point where it gets too late for traditional medicine.

But please think twice before you hot wire your cat.
management and reversal. If you are a professional in this area, please do contact me for additional details. A credible co-author is being sought.

You can make use of the previously mentioned Medline access sites as gateway links to take you to untold thousands of health and medicine related web sites.

A few medical electronics bargains are at www.tinaja.com/bargte01.html. A lot of other medical gear can be gotten as military surplus at very low prices. We saw details in RESBN81.PDF and RESBN82.PDF. And, as we have seen, many useful links can now be found at www.tinaja.com/beewb01.html

**This Month’s Contest**

As our contest for this month, just tell me about any useful, oddball, or unique medical electronics resource that I haven’t already come across.

There’ll be a dozen or more of my new Incredible Secret Money Machine III books going to the better entries. Plus an all expense paid tinaja quest for two (FOB Thatcher, AZ) going to the very best of all.

Send your written and snailmailed entries on this contest directly to me here at Synergetics

There’s lots of exciting possibilities here. Let’s hear from you.

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Microcomputer pioneer and guru Don Lancaster is the author of 35 books and countless tech articles. Don maintains his no-charge US tech helpline found at (520) 428-4073, besides offering all of his own books, reprints, and consulting services. Don also offers a free catalog full of his unique products and resource secrets. The best calling times are 8-5 on weekdays, Mountain Standard Time.

Don is the webmaster of his Guru’s Lair found at http://www.tinaja.com

Full reprints and preprints of all Don’s columns and ongoing tech support appear here. You can reach Don at Synergetics, Box 809, Thatcher, AZ 85552. Or send any messages to don@tinaja.com