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Publisher: Hans R. Larsen MSc ChE

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VIRTUAL LAF CONFERENCE

Proceedings of 52nd Session
December 18th 2007 – January 30th , 2008

SUBJECT: Monitoring Devices and Methods II

Hi all,

I had originally approached Hans with the idea for an addendum to SESSION 52: Monitoring Devices and Methods (June 20, 2006 - July 21, 2006) http://www.afibbers.org/conference/session52.pdf. I wanted to make some of the Polar graphs that Mark Robinson had sent me are easily accessible in the future. Hans suggested that I edit some of the original postings for clarity and initiate a broader discussion on monitoring.

Because of other obligations I've had little uninterrupted time to do the editing. However, I'd like to get the discussion kicked off and I'll work on editing some of the linked PDFs as I have time (or lack thereof). I'll start by reposting some of the previous threads on this topic.

In CR 52 we discussed a variety of methods including manual, stethoscope and various electronic monitors. I would like to extend that discussion and hopefully amplify it. I've made arrangements with Hans for him to accept .jpg files for display. Here is how that works: a) create a .jpg of what you'd like to show, b) email the file to Hans at editor@afibbers.org, c) upload the file to affibers.org, d) Hans will email you a link to the uploaded graphic and e) you can now include that link in your post.

In Microsoft Windows XP, a way to create a .jpg file of a screen capture is to 1) press the Print Screen Key, 2) open the "Paint" program (Start, All Programs, Accessories, Paint), 3) select "Edit" "Paste", 4) select "File" "SaveAs", 5) give the file a name and 6) change the "Save as type" to JPEG. There are other ways to do this & if you know them, use them. If MAC or Linux users wish to post instructions on this, please do.

If you have monitoring methods that you've found to be of value, I urge you to contribute a discussion of them here. If you post, I would encourage you to include:

- the cost of the device (and in what currency),
- a location where it can be purchased (web address),
- how you use it,
- positives and negatives associated with its use,
- any other comments
- screen prints of device output, if possible.

I've been monitoring my heart for over 3 years. I know that some of you have been doing this for much longer. My comments will be directed toward my Polar S810 as it is the tool I use the most. This monitor is discusses more completely in CR52. Polar has replaced it with the RS800. From the afibbers perspective, the key factor is that this monitor will record the length of each beat. Most heart rate monitors only report a 5 or 15 second average heart rate.

The cost of the RS800 is ~$370 (USD). It will also require an IRDA infrared adapter to communicate with the computer (the older S810 requires a proprietary infrared interface).

Information:http://www.polar.fi/polar/channels/eng/segments/Running/RS800.html
Purchase: http://www.heartratemonitorsusa.com/Pages/POLAR/RS800.html

I use it to monitor my heart twice a day during meditation. I can detect PVCs, PACs, NSR and afib.

Positives – easy to use, you can get a lot of information from it and monitor for up to 30,000 beats.

Negatives – readings are subject to artifact. This is why I usually monitor while quiet.

Other comments and screen prints – see CR52.

One of the things that amazes me it how much arrrythmia information you can gain from beat to beat heart rate variability. In the following thread, there are links to screen prints that Mark Robinson has provided showing afib, NSR, PAC's, PVC's, aflutter with a variety of conduction ratios.

George

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http://www.afibbers.net/forum/read.php?f=4&i=20030&t=20030#reply_20030
Author: GeorgeN v/51/na (---.biz.mindspring.com)
Date: 11-02-06 10:15

Hi,

Mark R kindly provided screen prints from his Polar S810 of his various rhythms: NSR, flutter & afib. There are two sets, the first is from 31 Oct, the 2nd from 17 Oct. The graph quality in the 17 Oct set are not as clear, as Mark got better at doing this by the 31 Oct set (probably for his visit with Dr. Schilling).

For those who are not familiar, what you are looking at is heart rate on the Y axis and time on the X axis. The format of the X axis is hr:min:sec. Generally it is minutes & seconds you are looking at.

I've never had flutter (fortunately), so my Polar experience has been limited to: NSR, PAC's, PVC's and afib. I think this is a useful to see.

Mark has tried to label the graphs with his interpretation of what is happening.

If you are on dial up, the file size is about 850 kb.

http://www.afibbers.org/conference/mark.pdf

I'd love people's comments or questions.

Mark, how did Dr. Schilling react to the Polar graphs?

By the way. If people have a Freeze Framer monitor. It's responses should be similar to the Polar.

George

Author: GeorgeN v/51/na (---.biz.mindspring.com)
Date: 11-02-06 11:15

To me, the patterns on p 7 & 8 with 4:1 and 3:1 block during flutter are very interesting. Especially the lack of HR variability with the 4:1 block.

For those who did not see it the first time, there are more examples of afib, as well a some interpretation explanation in CR 52 which is here (large file again): http://www.afibbers.org/conference/session52.pdf

George

Author: Gunnar v/61/na (---.12-2-64736c11.cust.bredbandsbolaget.se)
Date: 11-02-06 11:31

Hi Mark,

Very interesting. I have been to the intensive care unit several times when I have calculated that there might be close to the 48 hours limit with all the "handling included" and also the knowledge that they only make cardioversions at office hours.At the ICU I have converted to NSR before cardioversion after having taking Sotalol, Metoprolol and Cialis at onset of AF. I am always hooked up to a wireless EKG recording device there and have been able to study the graphs afterwards and on a monitor at conversion to NSR. One difference I see in your recordings is the time for your heart to go into normal rate. For me this is a matter of 2 to 3 heartbeats and my HR is 50-52. There are also no PACs and PVCs thereafter. You have also a rather high heart rate even if I think there must be something wrong with the most extreme you are showing. My heart rate is going down exponentially after I take my PiPs to under 80 - 90 and there I convert. Sometimes I do not reach that level and then it has worked by taking another half pill of Metoprol.

In these recordings did you take any extra beta blocker when AF set in. I assume that the recordings are from when you took Sotalol all the time. But have you been allowed to take any extra beta blocker as I do, like Metoprolol or Atenolol. Sotalol is not a bright idea to take extra of as you could get close to get "torsades des pointes". By the way I only take Sotalol/Metoprolol when in AF. You would feel so much better by not letting your heart work so hard when in AF, but perhaps your attacks are so frequent that an temporarily increase of beta blocking would not work.

Author: Cynthia (---.sav.bellsouth.net)
Date: 11-02-06 11:32

George, That is fascinating. I almost got exhausted looking, and glad my heart has not misbehaved that badly. I was told that I was cardioverted twice to get out of A flutter during my ablation. Don't really understand why that would not have been ablated as well and a question I will have for my EP when seeing him on the 17th.

You and Mark are to be commended for bringing this so that we all can visualize why it is that we feel so miserable during an attack.

Cynthia

Author: Jackie (---.clvdoh.adelphia.net)
Date: 11-02-06 16:07

George - that's fascinating. I never went ahead and bought the Polar monitor. How does the pattern on that compare to that which shows on the hospital monitor? or an EKG? It looks alot different than what I've seen. Maybe they aren't comparable but it certainly is graphic.

Thanks for putting this up.

Jackie

Author: GeorgeN v/51/na (---.hlrn.qwest.net)
Date: 11-02-06 16:59

Jackie,

It is not like an EKG - it is only rate vs. time. As to a hospital monitor - it depends upon what is being displayed. I suppose you could get a rate vs. time graph, but it would only be for 10-30 seconds of data, I'm guessing - not minutes

or hours it Mark's data shown here. This is one reason I'm wondering what kind of response Mark got if he showed it to his doctor. It isn't something they are use to looking at, but does contain a lot of useful information.

The Polar actually uses a chest strap that looks at the ECG/EKG info and picks out the "R" of the PQRS wave. Then it transmits the time (in milliseconds) between the R's (i.e. r to r) to a watch which can store 30,000 beats. When downloaded, you can either display beat length (time) or rate, which is just another way to look at beat length.

The reason PVC's show up as 1/2 speed beats is that the strap doesn't "see" the malformed QRS waveform of the PVC. Therefore it reports, for a PVC, a beat that is 2x as long (or 1/2 as fast) as the beats around it. This is useful for us as it allows us to distinguish PVC's from PAC's on the output.

As I mentioned above, what I found very interesting was the lack of variability in some of the flutter displays (or the sawtooth waveform). There is normally a fair amount of variability from one beat to the next. Also breathing (i.e. respiratory sinus arrhythmia - RSA) usually shows up. This is where the heart speeds up when you inhale and slows down on exhale. A guy who plays with RSA alot and gets it in sync with the hearts own rhythm is shown here: http://www.coherence.com/science_full_html_production.htm

George

Author: Gunnar v/61/na (---.12-2-64736c11.cust.bredbandsbolaget.se)
Date: 11-02-06 18:17

George,
in the control room for the equipment they have for monitoring the patients at the ICU they can get the same graphics. The nurses however, prefer to look at the average HR over time and see how the heart rate goes down. At least that is what they do where I go. Of course they can change the display to an ordinay ECG graph or have that in a separate window or on another monitor and everything is also recorded. The software can also make computations on PACs and PVCs and of course calculalte the usual parameters of the PQRS complex.

Author: Jackie (---.clvdoh.adelphia.net)
Date: 11-03-06 06:16

Got it - thanks for taking time to explain it to me. Jackie

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-03-06 16:38

George Dr Shilling didn't really have time to say much about the polar tracing's I was bombarding him with questions and had just stuck 17 ECG traces in front of him. If you want to see any of ecg's I will send them to you.

Some thoughts on lack of heart rate variability. The ventricular response in nsr is ultimately controlled by the SAN which is subject to change it's firing rate due to autonomic stimulation (incl breathing rate etc) In fib the chaotic electrical activity in the atria is picked up by the AVN in a chaotic manner hence the variability of the ventricular response(obviously some blockage of electrical impulses occurs). However in flutter since the electrical circuit is not chaotic the AVN somehow finds it much easier to block the electrical impulses in multiples. My presumption is that in the 4:1 block the autonomic nervous system is bye passed by the nature of the electrical circuit in the atria therefore it doesn't have an effect therefore the heart rate variability is low. There are flaws in this line of thought but it's just a start.

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-03-06 16:48

GEORGE on a very serious note. The traces for 20.10.2006 time 23.17pm. Do you think there are any artefacts in those. I wish there were but I don't think there are. I does concern me since for 25% of the time my heart rate was above 200 and for 12% of the time above 230. My max heart rate as an Athlete was only 180. I do realise it can go higher than that but I do find it very worrying. Looking at the graphs do you think it was really running at that rate. I haven't heard anyone else on this board with a rate that high.

Mark

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-03-06 16:54

Jackie and Cynthia. One difference between An ECG and the Polar trace is the later as you stated shows more graphicaly how we feel. I have to be honest the last attack was absolutely horrendous. Just appalling and is one of those that scars you. These are just a few I have got hundreds more.

Mark

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-03-06 17:07

Gunnar "You have also a rather high heart rate even if I think there must be something wrong with the most extreme you are showing." how I wish you were right. I'm interested in the reply from George about that point. My heart didn't feel right and it was at times so much much much worse than my present a.fib. At it's worst I had been without any meds for about 11 hours the hospital was to busy to get any for me. They treated me like scum but let's not go there. I don't feel the beta blockers help the flutter rates much at all. But when in just fib they are great and my heart rate is steady and comfy around 85

Mark

Author: GeorgeN v/51/na (---.hlrn.qwest.net)
Date: 11-03-06 18:53

Mark,

Of course I have no way of really knowing, but I'd have to vote for artefact.

See: http://www.afibbers.org/conference/artefact.pdf

There are 4 screen prints of two different days. The first two (#1 is a zoom of #2) was when I was doing some mild exercise one morning & my son called, so the artefact in the middle was from picking up the phone & holding it to my ear. Not that the phone caused the problem, it was arm position with respect to the chest strap.

The second two are also from a very long phone call from my son - prior to the #1 lap mark and after the #2 lap mark, I was meditating. I was holding the phone to my ear, sitting on a couch with my arm up on the back of the couch. You can see the similarities between the zoom (4th screen print) and yours.

I can say that, to my knowledge, I've not had any afib in 18 months. The 1st set of these was about a month ago, the 2nd set about 6 months ago.

I'm really suspicious of odd looking traces, unless I'm perfectly still.

George

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-03-06 21:29

Thanks george and luckily you have hit the nail on the head I think. This is the first time I have ever had this artefact .However I am so lucky you mentioned the mobile phone bit. Since I was in the hostpital in bed with my mobile switched on (whoops) and since it was cold I was wearing my coat in bed with my mobile in the pocket. I haver never done this before and didn't realise till you mentioned that. I will now try to induce some mobile phone artefacts and match the signiture if I can.

Thanks George

Mark

Author: Gunnar v/61/na (---.12-2-64736c11.cust.bredbandsbolaget.se)
Date: 11-04-06 02:09

Hi Mark,
I also have a HR monitor, a rather cheap one I use for biking. Almost every time I use it it will jump up to over 225 for a couple of minutes and then go back to the normal. I think it is some software error in combination with bad contact to the skin. Would not your graph represent fibrillation of the ventricle at that rate, which you have not got. A couple of weeks ago there was a poster with the same problem and we all agreed to that it was an error.

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-04-06 05:19

Thanks Gunnar as you can see as above I think it was my mobile phone. I am pretty hot on the subject of artefacts generally but since I was asleep most of the time with the rate over 225 I couldn't be sure. I'm sure I have had a rate of 212 in flutter in 2001 that was not an artefact but no graph.. I had a friend a young international athlete and her heart rate was always in the 200's when we trained, obviously without any ventricular fibrillation (but she was only 17 at the time). It was just the signature at over 200 was not of a form with which I was familiar for any usual artefacts I have had so far.

Regards
Mark

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-13-06 03:12

George and Gunnar been having a bad time lately with fib and got an nasty nasty bug aching and sickness. Anyway while been sick in flutter my 2:1 block of 144 bpm raised to 170 bpm then as I stood up it went to 240 for about a minute. Yes my pulse was way way way higher than normal manually compared to my 2:1 block and my heart was beating unbelievable fast on palpation of my chest it was very very scary. I started to feel faint but as I lay on my back as is usual with flutter I dropped into a 144 bpm almost straight away. Can't think that ventricular fibrillation and cardiac arrest are to far away at that rate. Needless to say it ended up being a 35 hrs nightmare.

Regards
Mark

Author: Jackie (---.clvdoh.adelphia.net)
Date: 11-13-06 06:43

Mark - That's really scary - did you say that you do not have any drugs to control the heart rate - like a beta blocker to be taken on demand in such cases?

I can really emphathize as my HR went frequently to 220 and it wasn't a nice feeling.

Your email link on the post isn't active, so could you please email me - I'd like to share a thought with you.

I'm so very sorry you are suffering so much.

Jackie

Author: JAGS (---.health.net)
Date: 11-13-06 10:23

Mark,

My rate routinely gets above 200 and often to 220. You beat my highest rate of 227 bpm. I get these high rates even being on 50 mg of atenolol. I take an extra 25-50 mg of atenolol...it really helps bring down the rate...but it can take 2-3 hours to do so....

My EP insists that you can have afib at that high of a rate. I have always suspected some kind of atrial tachycardia. My concern is when I have my ablation in January that he might focus on the afib only and miss some other issue in the process.

Are you sure it is aflutter? Could you be in afib with the high rate or have some other atrial tachycardia? Sounds like your rate was in the 144 range for 35 hrs. I can only take 3-4 hours of rates above 200 before feeling like I'm in heart failure. I recommend looking at a beta blocker to help with the rate. Also, keep in mind that when you are sick your body creates excess catecholamine which increases adrenaline and the heart rate. Good luck!

Author: GeorgeN v/51/na (---.biz.mindspring.com)
Date: 11-13-06 10:34

Hi JAGS,

Mark provided me with some heart rate graphs previously. These are referenced in this post:
http://www.afibbers.net/forum/read.php?f=4&i=20030&t=20030#reply_20030

I can't say that Mark's current rates are aflutter, but ones he previously provided clearly are. They have a much different character (more regular) than afib.

George

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-13-06 10:47

Jags I can control my rate I just don't move. I do have diltiazem along with the flecainide but I couldn't get it into my system properly due to the sickness. I had on just stopped my sotalol 2 days earlier and was quite positive about a change in meds but it all went pair shaped at once. I've asked if I can go back on the sotalol since after 24 hrs of nsr I'm now in a.fib for 14hrs+ and I've never gone over 8hrs a.fib before. Yes I do think it's flutter and can get it down to the 144 straight away by lying down. I'm going to e-mail my polar trace of this to George so he my post a copy online if you want to see it. I get a.fib and typical and atypical a.flutter (which Dr Schilling thinks is pulmomonary vein tachycardia). He say I need a full monty ablation flutter and a.fib if this helps you.

Who is doing your ablation, none of my previous cardiologists ever mentioned I hardly ever get fib without flutter but the wern't expert electrophysiologists. I actually think I was above 240 and my heart monitor was maxing out. But you can keep any records in that dept thank you

Mark

Author: Phillip (---.wa.westnet.com.au)
Date: 11-13-06 12:41

Mark,I have had this 244 HR per minute flutter .I was in about 120/130 pm for 2 weeks ,then one evening with bug it jumped to 244 pm in bed.After 10 mins started to slow.However, a few weeks later I had another evening episode and this time I guess fear begot fear and it went to 244 pm and stayed. Had to have an ambulance called for ER and it took them maybe 45 mins of IV drugs,mainly amiodarone to get it down.They were also in a panic and I dont think that I could have gone much more than2/3 hours at that rate...my heart was fairly humming.
SOLUTION:Flutter and A/fib ablation,has worked for me so far.Just make sure if you go this route you get a well

regarded EP as so often recommended on this BB.

I personally feel for you on this one,best wishes from Australia.

Phillip

Author: Jackie (---.clvdoh.adelphia.net)
Date: 11-13-06 12:52

My AF was recorded on a King of Hearts Monitor over a 24-hour period and confirmed in the hospital. It definitely was AF (not fluttter) at 220 and 230 and lots ranging in between. It wasn't overly uncomfortable. I just didn't do anything more than sit in a chair and walk very slowly if I needed to move.

Jackie

Author: GeorgeN v/51/na (---.biz.mindspring.com)
Date: 11-13-06 13:19

Here are Mark's heart rate graphs at 240 BPM:

http://www.afibbers.org/conference/mark_240_pulse.pdf

Notice the difference in character between afib and aflutter. The flutter is much more regular - though the high rate must be awful to experience!

George

Author: Gunnar v/61/na (---.12-2-64736c11.cust.bredbandsbolaget.se)
Date: 11-13-06 13:56

Hi Mark,
I am sorry to hear that you are in such bad position. I posted earlier that from my experience sotalol begets AF: The body get used to it and the refractory period gets even shorter. Sotalol blocks the potassium exchange and flec the sodium. It is two different mechanisms.

<tt://cvpharmacology.com/antiarrhy/sodium-blockers.htm>

Note that there is a warning that flecainide can cause ventricular tachycardia and that is why you always should start it at a hospital.

Now I have to gradually reduce sotalol when I have taken 40 - 80 mg at an attack by taking 20 and 10 mg the days after otherwise AF starts again just if it was a trigger, not my usual connection with high BP and low pulse at night. I have no idea if you can phase them in together,

I wish I had some suggestions for you but the only one I have is that you should watch the pH of the food you eat and perhaps have a water melon cure to get it right. Slices of watermelon every day for two weeks.
http://www.trans4mind.com/nutrition/pH.html
It is a little pathetic considering your problems but it helped me.

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-13-06 14:27

Thanks folks in a.fib with 62bpm at moment but it feels real weird like continual pacs but not my usual pacs. Will upload my latest polar graphs now to get a handle on it. All the drugs give me new and different arrythmia's. I'm glad I stayed medication free for 5 years but it's a distant memory now.

Mark

Author: Mark Robinson (---.cache.pol.co.uk)
Date: 11-13-06 14:52

Yep it is a new rhythm I'm not in fib at all it's a bizzare flutter with changing block. To complicated to explain but now I know why I feel so weired.

Regards
Mark

Author: JAGS (---.lsanca.dsl-w.verizon.net)
Date: 11-13-06 20:41

Mark,

Like you I have/had aflutter. I had two flutter ablations (one typical and the other atypical). During the 2nd ablation they found afib. They did not have my approval to do a PVI so they stopped. I wish they would have gone in and ablated all of the problem areas at once. My EP is Dr. Shivkumar at UCLA. My cardiologist looked at my ECG and cound not tell if it was afib or flutter. My first EP said he could not tell either but it was clearly on the left side and that the PVI would solve the problem. Dr. Shivkumar is convinced that it is afib.

Sounds like if you have an ablation you will have it all taken care of at once. Do you have anything scheduled yet? I will look at your polar trace and see if it looks similar to mine. We are both fairly young (I'm 44).....way too young to be heading towards permanent afib.

Re: pulse of 240 confirmed
Author: Sue Bowden (---.range86-142.btcentralplus.com)
Date: 11-14-06 00:12

Mark,

I sympathise and am so sorry you are unwell and having to face this. My attacks regularly start with pulses over 200bpm and I can do nothing but lie down until it slows. I think you are right to ask to go back on the sotalol. I know it is not a popular drug on this board but it is still the only one I can take and it definitely slows down an attack. Before my attacks abated I was taking 160mg twice a day but I have now gradually reduced this to 80mg twice a day with my doctors supervision, due to the success I have had with my supplements. However, if and when another attack comes and it appeared to be worse on this low dose I would definitely think about increasing the dose again. It is a very good drug for keeping the rate down. If I could have one Christmas Wish granted this year it would be for all of us to be free of this "Beast"! Hope you feel better soon.

Author: Aldona (---.tpgi.com.au)
Date: 11-14-06 00:21

Hi,

I am very happy to hear you are well after your ablation and touch up in Perth/Australia/.
It is very encouraging, your experience for all the Aussies who might consider ablation as an option or necessity for treatement of AF.

All the best to you, have a great time in NSR!

I experinced pulse of 22 , and it was brought down by IV in hospital..Took them several hours.

Aldona.

Author: James Driscoll (---.wireless.as15758.net)
Date: 11-14-06 02:53

Hi Mark- flecainide can give you 1:1 flutter which might explain these rates (and is why a betablocker is often given along with flec).

I had to come off of felcainide because of this problem. It is really an unpleasant situation and is much more of a concern than AFib so if you can't get the rate under control I suspect they'll take you off of flecainide and try something else. (If you are particularly susceptible, other Class 1 meds may give you problems - I had similar trouble with propafenone)

All the best

P.S. please bear in mind that your polar watch will start clipping at around 220 bpm so don't expect high rates to be reliably recorded. (I've had AF rates up to 280bpm and distinguishing between AFib and flutter at these rates involves some posh hospital kit and a very experienced eye - similarly it's sometimes tricky to distinguish between tachycardia and flutter with the polar watch because you don't get to see what the atria is doing)

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James D

Author: Phillip (---.wa.westnet.com.au)
Date: 11-14-06 03:39

Thanks Aldona.Just for information of Aussie a/fibbers,Dr Woorasooriya in
Perth has now performed 500 plus PVI,s and does 6/8 a week.He is a firm believer that it is necessary to do a minimum of 3 a week just to maintain skill level.His nurse said that it requires a lot of skill as during the operation they can ablate an area and some minutes later see it become active again
and have to reablate that area.It is not surprising that 25% need a second,touchup ablation.

Best wishes for continuing NSR.

Phillip

Author: Pam (---.hsd1.md.comcast.net)
Date: 11-14-06 06:27

Hi Mark:

I agree with James, that since you know you have aflutter with variable conduction, when you stood up you probably were conducting 1:1 to give you a rate of 244.

**********"I do have diltiazem along with the flecainide but I couldn't get it into my system properly due to the sickness."

Don't you think you would be then better off to just take a rate drug on a daily basis instead of waiting for an episode with rates possibly that high, accompanied by nausea?

Pam

Polar Monitors
Author: Rob (---.sol2.cable.ntl.com)
Date: 12-08-07 14:14

I'm considering getting one of these and was wondering what I need to look out for features wise?

I may order from the US due to the favourable exchange rate between the UK and US at present.

Author: GeorgeN (---.hlrn.qwest.net)
Date: 12-08-07 16:17

Rob,

If you want to get the kind of displays shown later on in CR 52 http://www.afibbers.org/conference/session52.pdf, you must get a monitor with beat to beat (or R to R) recording. The Polar can store ~30,000 beats, which you can then download to the computer through an IR link (sold separately). The new watches will use the standard IRDA link, the older (Polar S810) use a proprietary link.

The RS800 is the replacement for the S810 & S810i.
http://www.polar.fi/polar/channels/eng/segments/products/RS800.html

They also sell a model for cycling that has this R to R feature, the CS600
http://www.polar.fi/polar/channels/eng/segments/products/CS600/allfeatures.html

Other than that, all the watch models display/store an averaged beat which has value but does not allow you see PACs/PVCs, afib and flutter. These irregularities all show up as different heart rate irregularities on the heart rate vs. time graphs (see CR 52 above). With an older Polar, I could tell when I was in afib because the displayed HR bounced around alot in afib. Normally an averaged display is rock steady when in NSR.

If you try to get a used S810 on EBAY, if you get an S810, be aware that the proprietary interfaces are hard to come by. As far as I can tell the only difference between the S810 and S810i is that the latter will use both proprietary and IRDA IR interfaces. The new RS800/CS600's will only use IRDA.

George

Author: Dave in So Cal (---.lsanca.dsl-w.verizon.net)
Date: 12-08-07 20:54

Rob: I have been thru a few of the older Polar Hr Mon's, some do not read under transmission lines, some give false readings when your jersey flaps on transmitter (cycling). Good luck, I suppose you plan to sleep with and download data, Dave

Author: GeorgeN (---.hlrn.qwest.net)
Date: 12-08-07 21:00

R to R data while moving are always subject to artifact. Bah Bump electrolyte cream helps keep chest strap with good electrical contact with the skin.

One poster here had a problem with his Polar reading 230+ while coasting down very long hills. I suggested that he confirm the high reading manually and that it was probably due to the chest strap drying out on the downhill due to wind and lack of sweat.

My own preference is to make reading to analyze PAC/PVC rates will meditating motionlessly. This eliminates most artifacts.

George

Author: Mark Robinson (---.bb.sky.com)
Date: 12-09-07 04:22

Rob I think you choice should be very easy. I'm out of touch now but there will only be one or a few that measure each beat. They will be the most expensive but go for one if you are serious about your a.fib.

We are so so lucky to have George on this site he will give you info on reading plots that you probably couldn.t suss even if you were a PHD consulatant cardiologist. As with everything its easy when you know how. George has done the leg work.

George are my graphs still on line Rob might want to see mine or others

Mark

Author: James Driscoll (---.bethere.co.uk)
Date: 12-09-07 06:48

Rob, there are some print outs from my Polar S810 here....
http://james.dialsolutions.com/public/

I got mine many years ago from here...
http://www.heartratemonitor.co.uk/

The people there where happy to answer my questions via email before I figured out which watch to go for.

It's worth checking to see if the kit will work on your computer (my kit doesn't run on Windows Vista)
--
James D

Author: Mark Robinson (---.bb.sky.com)
Date: 12-09-07 15:19

James why do you think your graphs that say a.fib to fast nsr are fast nsr and not flutter with a different block. Due to the lack of variability your fast nsr looks like flutter to me. Any thoughts

Mark

Author: James Driscoll (---.bethere.co.uk)
Date: 12-10-07 06:36

Hi Mark, yes without ECG monitoring this does become a bit tricky and I'm sure you'll find differing opinions here.

my best guess is
http://james.dialsolutions.com/public/AF_flutter_AF.gif
is definitely flutter (both me an my cardiologist thought so)

http://james.dialsolutions.com/public/AF_to_tachi.gif
is probably flutter

and
http://james.dialsolutions.com/public/AF_to_fast_NSR.gif
is too variable to be flutter though there may be a small amount of flutter around the 11:53:36 time and I could be persuaded that I popped into flutter around 11:56:06 before finally reaching a more sensible NSR rate.

I agree that AF_to_fast_NSR is an oversimplified file name, AF_to_multiple_morphologies might have been a better description.

--

James D

Author: GeorgeN (---.hlrn.qwest.net)
Date: 12-10-07 07:19

Dave,

Bah Bump cream is most useful when NOT exercising and therefore not sweating. Like wearing a monitor overnight when the chest strap is likely to dry out. Who is going to wear a monitor overnight except an afibber? Otherwise, I would agree that the cream is not needed.

George

Author: James Driscoll (---.bethere.co.uk)
Date: 12-10-07 07:32

On the subject of creams I use ECG gel (around 5 UK pounds from a chemist) . One tube usually lasts more than a year and I've found it improves the signal to noise ratio enough for me to use it any time I want to monitor for more than a few minutes. Shaving your chest also improves the recording if you happen to be hairy.

Also, I don't know if Polar still do a solid plastic chest strap but I found that the fabric version is significantly better. The fabric one does a much better job of keeping in contact with your chest.

--
James D

Author: ArtSD (---.sd.sd.cox.net)
Date: 12-10-07 15:08

I use signa gel. I have to keep it out of the shower area because the tube looks like Prell shampoo! When rowing, I don't use the gel as I produce copious amounts of sweat. However when doing my frequent contaol readings at my desk, or also with an occasional overnight, I load up with the gel.

As an aside, talking about overnight readings: it sure produces excellent confirmation of obstructive sleep apnea. I'm on a CPAP so I need to figure out what is happening during those times. I s'pose a chin strap or duct tape is next.

Also, I didn't have as much luck with the Polar cloth sensor as the older solid piece. It must have to do with rib conformation.

The following is a compilation of a number of the threads Wil Schuemann has posted on his ECG and Holter monitors. There is also some discussion of other ECG monitors. I've left in some of the extraneous posts as I feel they add to the flavor of the threads. Wil has probably monitored as much or more than anyone with ECG and Holter monitors.

George

http://www.afibbers.com/forum/read.php?f=3&i=2105&t=2105#reply_2105
Author: Wil Schuemann (---.gorge.net)
Date: 11-16-03 14:41

Introduction:

I have been exhibiting chronic a-fib for two years. I have no other known health problems, other than being 66 years old, and having a lifelong history of migraine. I work 60 or more hours per week, and my sports are wind-surfing, mountain biking, and mountain climbing, all of which are now pursued with suitable restraint. My height is 5’11" and weight 145 lbs.

My a-fib does not affect my normal life, nor am I much aware of it. My heart rate is; 70 waking, 80 resting, 100 working, 115-125 exercising (albeit not too vigorously), and 150-160 peak. My blood pressure averages 120/70 when I am far away from medical doctors. All the standard tests failed to show any heart or chemical anomalies

My two children are both MDs, and my daughter-in-law is a physical therapist for the Olympic teams. Our collective judgement is that, as aging continues, in ten or twenty years my health will be better if aging proceeds with my heart in sinus rhythm, rather than in a-fib.

Background:

For years prior to November, 2001 I had what, at the time, seemed like skipped heart beats, but I experienced no a-fib. On a trip to Phoenix that November I stayed up most of a night analyzing a particularly frustrating German patent. This predictably triggered a migraine the following day, which peaked the following night. When I awoke the next morning I was experiencing an irregular heartbeat, but no other symptoms other than what seemed like somewhat stronger than usual post migraine recovery symptoms.

When I returned home my daughter analyzed my problem over the phone as a-fib and had me come in for an ECG to verify her guess.

I did a cardioversion in the spring of 2002 which successfully converted my heart to sinus rhythm. The resultant, if unanticipated, migraine restored my heart to a-fib when the migraine peaked about 36 hours after the cardioversion. This was little different from what had happened months earlier when my a-fib started as a migraine peaked. A month or so later we did another cardioversion, with the same result as obtained with the first cardioversion.

Additional information:

Soon after my heart began a-fib I acquired a used H-P ECG and began regular monitoring of my heart waveforms. Over a relatively short period of time I came to the conclusion that only the random ectopics provided any useful information about the condition of my heart. There were five different ectopics, which could all be seen in the aVF trace: (1) a standard left ventricular ectopic; (2) a half amplitude standard left ventricular ectopic; (3) a standard right ventricular ectopic; (4) a half amplitude standard right ventricular ectopic; and (5) a very low amplitude transient (when seen on the aVF trace) which had a shape somewhat like a right ventricular ectopic. During 2002, the rate of ectopics averaged about 20 per hour, with a range of 0 to 75 ectopics per hour, and predominantly consisting of the (5)th ectopic listed above.

During 2002 I explored the various supplement and nutritional ideas promoted on this a-fib web site as being beneficial without noting any changes in my heart s ectopic pattern, nor did I notice any other physical
or mental changes.

In November, 2002 I decided to do the following: (1) eliminate all foods known to be high in Tyromine and all foods to which I reacted on a standard allergic skin prick test (to reduce problems with migraine; (2) eliminate all foods known to contain added glutamate; and (3) to consume 1 ounce of ethanol daily in multiple servings of a sulfite free wine (as an anti-stroke measure).

Naturally, this regimen forced other changes: no eating out; no processed foods; etc. My grocery store shopping now takes place entirely in the vegetable/fruit section with a few purchases in the organic dairy section (butter and eggs). I occasionally eat salmon from vitalchoice.com. I use organic oat groats for making cereal.

The ectopic rate started decreasing immediately. Over the next two months the ectopic rate dropped from its one year average of 20 per hour to a sustained average of less than 1 ectopic per hour, and has probably continued to decrease during 2003. But, there are so few ectopics now (30 minutes of monitoring per day) that it is hard to determine specifically
how much the ectopic rate has continued to decline.

The ectopics went away in the following order: (1) the (5)th ectopic listed above disappeared first; (2) the (1)st and (2)nd ectopics listed above (left ventricular ectopics) disappeared next. Generally, only the (3)rd and (4)th ectopics

listed above (standard right ventricular ectopics) are seen any more.

I interpreted this change to be a hopeful sign. But, after about 8 months of minimal ectopics, and no return to normal sinus rhythm, I did a third cardioversion in August, 2003, which failed to convert my heart to sinus rhythm.

While the ectoptic rate was decreasing, unexpectedly, my neck s rotational range increased noticeably and minor pain associated with large quick neck rotations largely disappeared. This improvement is continuing, albeit more slowly now. The literature suggests such neck stiffness and pain may be associated with added dietary glutamate.

The migraines have substantially gone away, and generally energy and thinking clarity seem to have improved.

So, it seems clear that: (1) I seem to have found a way to influence my heart tissue to be generally less irritable; and (2) with the passage of time the root cause of my a-fib is exerting progressively greater power to maintain my heart in a-fib.

It seems like it is time to give serious consideration to a pulmonary vein isolation.

Wil Schuemann

Re: Report on 1 year's progress.
Author: PC (---.lsanca1.dsl-verizon.net)
Date: 11-16-03 16:06

Wil,

Thanks for the fascinating story. As I've said before, your persistence and dedication in tracking down the root cause of your AF, albeit unsuccessful, is admirable.

I would have to agree with your thoughts on PVI ablation. Who have you decided might be best in this regard?

Do you think that you would have been able to arrest the progression to chronic AF, if your dietary regimen had been instituted earlier? I presume Mg is high on your supplement list, especially given your history of migraines.

PC

Re: Report on 1 year's progress.
Author: Wil Schuemann (---.gorge.net)
Date: 11-16-03 17:26

Hello PC,

I regard the program as successful, even without a return to NSR thus far. I have essentially eliminated ectopics in the ventricles. This should reduce the probability of ever encountering a number of non-afib related heart problems in the future. In addition, assuming the lowered heart irritability will extend to the atriums, if a PVI is successful, should improve the probability of maintaining NSR thereafter.

In my case there was no progression to afib. My heart just switched from lifelong NSR to chronic afib. In a way I can regard this positively, as the possibility exists that some event caused a single aberrant site in a pulmonary vein to switch on, which caused the switch from NSR to afib. If true, this might mean that the PVI has a higher probability of being successful because there may only be one source to isolate.

The Mg, at very high levels, had no effect on the migraines or ectopics during 2002. The ectopic reduction and migraine reduction seems to have resulted from dietary eliminations. Based on how much more productive I am now, and how much better I feel, I would have to agree that had the dietary change been instituted earlier the heart

deterioration probably would have been slowed.

I have submitted an application for a PVI to the Cleveland Clinic Heart Center. They haven't responded yet.

The important thought which caused me to convert from being willing to live with the afib to being favorably inclined toward a PVI is that my thinking had to switch from what is best now to what decision now will have been best when evaluated twenty years from now. The few precent PVI complication rate extrapolated to twenty years hence only corresponds to a life expectancy loss of four months. But, the 50% probability of being in NSR for the twenty years is likely to worth far more than four months of high quality life.

Re: Report on 1 year's progress.
Author: Pam (---.74.229.59.Dial1.Baltimore1.Level3.net)
Date: 11-17-03 05:19

Wil:
Sure sounds like you're right on top of things. You didn't mention, have you had a Thallium Stress test and an echo and know that you have no underlying heart disease? I suppose you could consider yourself safe, with being 66 y.o. and wind surfing, mountain biking, and mountain climbing. Surely all that would have brought on anginal pain if you had significant CAD.
It also sounds like you have made vast improvements in ectopy with diet changes. Your chronic afib is at least at a comfortable rate. Do you feel it most of the time? or some of the time? Have you ever tried any of the antiarrhythmics?
In consideration of ablation, if you have been reading on this BB for any time, I am the one who had a disasterous ablation result, sustaining a catheter induced mitral valve injury. However, the longer I participate in this site, the more wonderful success stories I read. We just had two this week. I think the doctors are more aware of this threat since what happened to me was well published in EP journals.
I feel much more positive about the possibility that ablation is the first line treatment for persistant PAF. I don't know that it treats chronic afib quite as successfully. I would defer to others opinions on that. I do believe that the endeavor needs to well planned, with a very experienced and successful EP. One needs to measure success by word of mouth, such as this forum, rather than trusting in stories from the doctors web sites, as I have found them to be misleading and possibly inaccurate. I would also rather rely on my own research, rather than being referred by any cardiologist.
Good luck, Wil, with your decision; and I know that you have come to the right place to find good advice and suggestions. You will find a wealth of knowledge and support on this board.

God Bless,
Pam

Re: Report on 1 year's progress.
Author: Richard (---.gh.centurytel.net)
Date: 11-17-03 09:54

Wil,

I, too, find your story and scientific approach quite fascinating. I always enjoy reading your posts, and wish you would post more often.

I would like to pose a few questions. From your post, you have found tryamines (and MSG also high in tyramines) to be your culprit, because due to elimination, you have progressed to better health and noticed a remarkable reduction in ectopics. But the question is, why is someone sensitive to tyramine? There must be an underlying cause. What I have read and posted to you before, is higher levels of phenylalanine cause migraines, and to reduce this, one would take l-tryptophan. That still doesn't answer the question of why, however, and my book (THe Healing Nutrients Within) doesn't explain why, but I found the following info, that could be of interest to you, or at least stir you into another avenue of thinking.

From the book, "Laboratory Evaluations in Molecular Medicine" it states:

Intestinal bacteria that contain L-amino acid decarboxylase enzymes degrade tyrosine to tyramine. The tryamine is

than deaminated and oxidized to p-hydroxyphenylacetate. High levels of this in urine are of bacterial origin, such as Giardiasis.

Elevated urinary phenylacetate comes from similar degradation reactions starting with phenylalanine. An increase in dietary protein leads to altered products of colonic metabolism.

The neurotoxicity of phenylacetate is probably due to very strong inhibition of synaptic choline acetyltransferase.

Read on:

ANIMAL MODEL
Symula et al. (1997) mapped hyperphenylalaninemia 2 (hph2), a recessive mutation in the mouse that causes deficient amino acid transport similar to Hartnup disease. The hph2 mouse locus was mapped in 3 separate crosses to identify candidate genes and a region of homology in the human genome where they proposed that the human disorder may map. The gene maps to mouse chromosome 7 close to a marker in the fibroblast growth factor-3 gene (164950) which in the human is located on 11q13. The mouse mutant was isolated after N-ethyl-N-nitrosourea (ENU) mutagenesis on the basis of delayed plasma clearance of an injected load of phenylalanine. Symula et al. (1997) found that animals homozygous for the mutation excrete elevated concentrations of many of the neutral amino acids in urine, while plasma concentrations of these amino acids are normal. In contrast, mutant homozygotes excrete normal levels of glucose and phosphorase. Symula et al. (1997) presented experiments indicating that the mouse disorder is a model for heart disease: the urine amino acid profiles were similar; in both species, there was a deficiency in brush-border amino acid transport; and both displayed a niacin-reversible syndrome influenced by diet and genetic background.
http://www3.ncbi.nlm.nih.gov/htbin-post/Omim/dispmim?234500

Hartnup disorder is an autosomal recessive impairment of neutral amino acid transport affecting the kidney tubules and small intestine. It is believed that the defect lies in a specific system responsible for neutral amino acid transport across the brush-border membrane of renal and intestinal epithelium. The exact defect has not yet been characterized. The characteristic diagnostic feature of Hartnup disorder is a dramatic neutral hyperaminoaciduria. Additionally, individuals excrete indolic compounds that originate from the bacterial degradation of unabsorbed tryptophan. The reduced intestinal absorption and increased renal loss of tryptophan lead to a reduced availability of tryptophan for niacin and nicotinamide nucleotide biosynthesis. As a consequence affected individuals frequently exhibit pellegra-like rashes. Many other nitrogenous compounds are found in the intestine. Most are bacterial products of protein degradation. Some have powerful pharmacological (vasopressor) effects.
http://web.indstate.edu/thcme/mwking/nitrogen-metabolism.html#digestive
(under digestive tract nitrogen)

So you could very well be low in tryptophan, not only because it takes 60mg of tryp. to produce 1mg of niacin, but because it's not being transported in the first place.

Richard

Re: Report on 1 year's progress.
Author: Fran (---.aramiska.net)
Date: 11-17-03 11:01

Will

Its wonderful to read more of your story. You certainly know how to listen to your body.

I understand from your post you are just over 8 months into your new dietry regime. When I started my dietry regime it was just over a year before I slipped back into sinus. This went hand in hand with me stopping my meds (which I wonder sometimes if they kept me in AF). I am a bit different from you in that sinus came first and my ectopics were last to go (I still get the odd few - but not a patch on the runs I used to experience. I find that grains and dairy are what make ectopics happen now. Like you I no longer get headaches....

You don't mention much in your meat sources of food. But as per Richards post above you will need them for the

amino acids. I have a high protein intake but also a lot of veggie carbs.

I couldn't take Mg supplements as they induced AF and ectopics. But what I do do is take lots of high Mg food - pumpkin seeds are the best source I have come across - as well as almonds etc, they are wholly bioavailable and do not induce ectopics in me.

Maybe some of what I found worked for me is worth a try whilst you are waiting for CC to get back to you.

Best of luck

Fran

Re: Report on 1 year's progress.
Author: J. Pisano (63.85.134.---)
Date: 11-17-03 13:37

Wil,
Just wondering how you submitted your application. If you did this online the respond time is not good. I had my cardiologist call them directly, after a week, and I had an appointment within 2 months and a confirmation of the appointment immediately . I know this seems long, but when you are picking your EP personally, and choosing one of so high caliber, I believe it is well worth the wait, if you can actually wait.....

Best wishes!
Joe

Re: Report on 1 year's progress.
Author: Wil Schuemann (---.gorge.net)
Date: 11-17-03 15:52

begin soapbox mode:

The subtitle of this bulletin board should be, "correlation is not causation".

I made the specific changes listed above, which caused nearly everything else in my life to change, along with, of course, the continuing passage of time. I subsequently experienced a change in ectopic rate. That could have been purely accidental. I hope that it was not, and there are other bits of information that encourage me to believe that the ectopic rate change was related to the changes made (and all the other changes which resulted). But, it was a single experiment with a single data point. To try to isolate any part of what I did and credit it with the ectopic rate change is to ignore, "correlation is not causation".

For instance, the fact that the autonomic nervous system affects afib (correlation), should not be taken to mean that the ANS is implicated, in any way, in the condition of afib (causation).

end soapbox mode:

Pam: (1) stress test - no; (2) angina pain - never; (3) anti-arrhythmics - no; (4) awareness of afib - only the slightest sensation in the chest when not moving around; (5) most people in chronic afib probably got there via a long period of multiple forms of heart cell deterioration - mine appeared suddenly, therefore the chronic afib statistics for PVI may not apply to me.

Richard: You said, "[Wil has] found tyramines (and MSG...) to be [his] culprit". Not true. Correlation is not causation. There are certainly: some people who subscribe to that theory; some data which supports such a theory, said data playing a part in how I defined my experiment of one, and the results of my experiment support the theory. But, it is a long way from there to a conclusion.

Fran: (1) Actually I am 12 months into the experiment: 2 months of declining ectopics; 8 months of low ectopics; a

cardioversion to see if I could get back into NSR before the 12 months period you experienced had elapsed; and two more months of low ectopics. I anticipate another 6 to 8 months before a PVI, during which time I hope to revert to NSR spontaneously (ala Fran). But the most recent cardioversion result dampened my hopes a little. (2) The protein forms I tolerate well without headache symptoms are eggs and butter, and some salmon. I haven't tried to do as much in this area as I should have and plan to correct that. You are perhaps lucky, because my impression is that the area you live in has a greater variety of available local (unprocessed) foods.

Joe: Thanks for the heads up on the system at CC. I will tickle them a little. I am not in a hurry for the PVI. I do expect that in 6 or 8 months I will either have spontaneously reverted to NSR or will have given up hope of ever doing so, and would therefore be ready to let the gleeful doctors have some fun with their knives, hammers, and pliers.

Re: Report on 1 year's progress.
Author: J. Pissano (---.zoominternet.net)
Date: 11-17-03 16:47

Wil,

Your "Correlation vs. Causation" reminded me of funny aside we were told to teach us about that concept in grad school statistic classes.

Here it is:

Fact: Every time Ice Cream Sales Go up, More People Die of Shark Attacks.

Fact: Every time Ice Cream Sales Go down, Less People Die of Shark Attacks.

Conclusion: The Sale of Ice Cream seems to dictate the amount of people being attached by sharks.

*Perhaps you heard of this..... :)

Answer, the UNKNOWN or HIDDEN 3rd Variable was not looked at or considered.... SUNSHINE and Heat.

The REAL Fact is that sales of Ice Cream go up in the summer when it's warmer. Because it's summer more people are swimming. Because their are more people swimming there is a higher probability of shark attack....

Thus showing that Correlation does not necessarily mean Causation.

Thanks for reminding all of us Wil!

Joe

Re: Report on 1 year's progress.
Author: J. Pisano (---.zoominternet.net)
Date: 11-17-03 16:48

Gosh, That double "SS" in my name makes a bad sounding surname. I'll have to double check my spelling before I post Next time! :) Sorry!

Joe

Re: Report on 1 year's progress.
Author: Richard (---.gh.centurytel.net)
Date: 11-17-03 19:58

Wil,

I guess I was wrong in jumping to the conclusion that tyramine was the cause of your problem, however I must say that your migraines and tyramine are a good correlation and place to start. It also seems strange that you have correlated the consumption of proteins to headaches. It's as if there is the possibility that your problem could be phenylalanine and/or tyrosine. I find it strange however that you can eat eggs and some salmon with no problem. Have you ever wondered why that is, or figured that out? Could it be a higher content of the sulfur containing amino methionine, or the higher content of calcium, or fatty acids, by way of Omega 3s or lecithin that helps in some way? Common sense tells me it would be the latter. Are you able to eat legumes, nuts or english peas? I find your case very interesting. If you have any further insight about your past and any other symptons you have experienced, I would be very interested to hear about it. Thank you, Wil.

Richard

Re: Report on 1 year's progress.
Author: Wil Schuemann (---.gorge.net)
Date: 11-17-03 21:55

Richard: I only have the data from the allergic scratch test for guidance on what foods cause my migraines. I find that generally those foods that I reacted to in the skin test are also foods that seem to predictably cause migraines, and the larger the serving the more intense the migraine.

In my case the migraine occurs about 24 hours after ingesting the food and lasts for about 20 additional hours. But, the timing isn't precise and the intensity of the migraine symptoms can range from mental lethargy to serious pain. That makes it difficult to determine precisely what caused a migraine.

One obvious puzzle is beef. I didn't react to beef on the skin test. But, beef seems to consistently cause migraine. Another puzzle is Salmon, which I also didn't react to on the skin test. One shipment of salmon from vitalchoice caused no migraine, even with very large servings. The second shipment caused a migraine with each serving, even when I reduced the size of the servings. As usual, there are too many unknowns and too little data.

I reacted to peas, some legumes, etc. on the skin test, and have mostly excluded nuts during the experiment because I was unable to determine what might have been done to them.

Re: Report on 1 year's progress.
Author: Richard (---.gh.centurytel.net)
Date: 11-18-03 01:01

Wil,

If you don't mind me asking, could you tell me what foods you had the severest reactions to? I did a blood allergy test two different times, and found reactions to red snapper on one, but not the other, pistachios, sole (the highest reaction), and clams. I had a slight reaction to milk, yogurt, oysters, alfalfa, olives, zucchini, almonds, corn and corn gluten, lentils, oats, rice, rye, sesame, and chocolate. I was tested for beef and salmon, as well, but showed no reactions.

It would be interesting to compare, and see if there were any commonalities. I had severe migraines for quite some time, and was plagued with headaches prior to getting migraines. I lived on aspirin for my head and Tums for my indigestion. I quit having headaches once I started taking beta blockers for my arrhythmia, but have since discontinued (May 03) . Betas block adrenalin, and Phe. is the precursor to adrenalin (epinephrine). Maybe your pathway to noradrenaline (norepinephrine) is disrupted, as was mine, leaving more adrenalin in the system. Noradrenalin requires s-adenosyl-methione as a precursor. There was a study done on, I believe, salmon that showed when they were exposed to mercury, that the mercury attached to cysteine (breakdown product of methionine) to form methylmercurycysteine, which then, when ingested by humans, would carry out of their system, therefore preventing toxicity. But what if the salmon didn't have any cysteine or methionine left, for utilization in humans, due to their own deficit. Maybe the salmon you ate, that caused no problems, still had methionine and/or cysteine still in its system.

Just thinking out loud. Thank you for responding.

Richard
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http://www.afibbers.com/forum/read.php?f=3&i=3445&t=3336#reply_3445
Re: ECG machine
Author: Wil Schuemann (---.gorge.net)

Date: 12-10-03 21:27

I paid $1500 for what was not too long ago a top of the line Hewlett Packard ECG along with all the cables, paper, pens, and complete operating manual. If anyone is interested I would sell it for $1000, as I want to get a more expensive model that can record continuously for a period longer than 30 minutes. The unit I have is easy to use and is tolerant of some physical movement while recording. I read, do taxes, design parts, program my CNC machine tool, answer the telephone, and take orders while recording waveforms (and occasionally I fall asleep).

I've kept all the recordings (currently more than 1100 recordings) and have been surprised how often I've gone back to the earlier recordings to extract information I didn't understand the relevance of in the past.

I'm in permanent afib and the ECG allows me to monitor the types and frequency of ectopics. This has led to being able to essentially reduce the ectopic rate to zero through diet. This should reduce the probability of other heart rhythm misbehaviors from developing in the future. Without the ECG, monitoring and reducing these ectopics would have been impossible. Without the ECG it is nearly impossible for an afibber to separate rhythm irregularities from ectopics.

http://www.afibbers.com/forum/read.php?f=6&i=10847&t=10682#reply_10847
You have to read the labels carefully
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 06-01-05 22:18

My son has begun experiencing momentary a-fib like symptoms when he lies down on his left side. I've briefed him on what needs to be done so he can hopefully keep the a-fib from progressing. Again, genetics plus overly aggressive long term exercise habits; wind surfing and mountain biking, leads to a-fib.

I was ordering some vitamins for him and I came to the Douglas Laboratories' product labeled "Magnesium Taurate 400" on the front of the bottle. On the back of the bottle, in large print, it says "Magnesium - 400 mg". Above this it says "amount per serving". But, above this, in small print, it says "serving size - 4 tablets". So, this product only gives 100 mg of magnesium per tablet.

Caveat emptor.

Re: You have to read the labels carefully
Author: PC (---.hawaii.res.rr.com)
Date: 06-02-05 18:44

Hi Wil,

Very interesting about your son.

I'm working on a survey to possibly get a handle on this. You could help me formulate some of the right questions to ask.

Do you or your son experience increased ectopics at any particular time of day or with any particular activity? Were you both endurance athletes? Do you have any other offspring or siblings or parents with AF? Does your son have any children?

Thank you in advance for your assistance.

PC

Re: You have to read the labels carefully
Author: Wil Schuemann (209.216.183.---)
Date: 06-04-05 09:50

Hello PC,

I can give you some bits and pieces, and then I will forward this to my son (and daughter) and they can clarify and expand the following.

Father:

My father died at about 75 of congestive heart failure. He was a life long smoker, was relatively private about his physical problems, and I don't know the nature of his congestive heart failure. It is possible that he suffered from a-fib.

Wil (approximately 68):

I average one major migraine a month (magnesium?). I have permanent a-fib (magnesium?). When exercising I quickly reach some kind of abrupt energy limit, and after reaching this limit my physical performance immediately sags considerably. One could argue that I do well athletically until I deplete stored energy (magnesium?). I have not engaged in aerobic activities for this reason. I do wind surf, which I can do successfully, so long as I don't exceed this seeming energy limit. Otherwise, I quickly weaken, which can be somewhat dangerous in strong wind conditions.

A similar situation exists for intellectual activity. If I live a very paced life, and back down whenever I experience declining frustration tolerance, I can get a lot done (multiple patents, several successful businesses, etc.). If I don't back down, I successfully live through the situation, seem energized afterward, and then experience a disabling migraine the following day. This too suggests a kind of energy generation problem. Situations which can trigger the migraine are: being obsessed with an intellectual or home project; emotional upset; sex; stimulation from allergic food; food additives; etc.; i.e. apparently anything which causes me to dig into energy reserves. I have always lived an obsessive intellectual life.

These symptoms have been unchanged since my mid teen years.

Karl (son, approximately 40):

Has been athletically and intellectually compulsive his whole life. For instance, he has a high IQ (greater than 170), and when he took IQ tests he depleted his resources so completely he took days to recover. He displays similar bursts of obsessive behavior in normal life (programming, production, schooling, home projects, etc.) He has pursued athletic activities with similar obsessiveness, and has developed high levels of aerobic capability at times, mostly through mountain biking. When he was most fit, he could drive himself hard enough to produce angina.

He just recently reported the beginnings of a-fib, but I'll leave it to him to give you more details. I didn't debrief him thoroughly enough to intelligently comment further. He is still suffering a degree of denial and is not up to speed on the details and possible consequences of a-fib, so he may need to be prompted somewhat. He can be reached directly at karls@gorge.net

You might also contact my daughter Sonia (about 40). Sonia and Karl are both educated as MDs, and have shared many hours of athletic activity. Sonia might be able to give additional information about Karl (and herself). She can be reached at soni@gorge.net

I'd enjoy participating in your project. I will leave it up to you to define the nature of the interaction. I can be reached directly at wil@schuemann.com

Wil

Re: You have to read the labels carefully
Author: Wil Schuemann (209.216.183.---)
Date: 06-04-05 10:14

Hello PC,

I went directly into continuous a-fib. The only ectopic data I have was obtained from hundreds of ECGs I took during continuous a-fib. I originally could indentify five types of ectopics and their rates from 30 minute records. Over several years of lifestyle, nutritional, etc. changes, the ectopic rates and types of ectopics present were reduced. The rate reduced by a factor of 20 and ectopic types were reduced to only one (probably a left ventricular pvc).

All of my ECG data was obtained in the early morning.

My son has two young daughters (ages 1 and 3).

Wil

http://www.afibbers.com/forum/read.php?f=6&i=12531&t=12517#reply_12531
A little warning about post ablation tissue weakness
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-03-05 12:06

In the thread "Obfuscation in the medical profession?" Carol detailed her post ablation ordeal with a hemorage.

In my post ablation talk with Minerva at CCF, she advised me to restrict myself to lifting objects which weigh less than 5 pounds and to avoid crossing my legs, in order to avoid precipitating any internal bleeding. At a later meeting she admonished me for carrying my laptop around, because it weighed a little more than 5 pounds.

At the time I wondered privately as to what her advice would have been to the typical American who is usually many tens of pounds overweight.

While I subsequently somewhat exceeded the 5 pound lifting limit, I remained careful to manage my body motions to minimize stress in the groin area., and experienced no problems.

I am now 12 days post ablation; my many black and blue areas are fading out; and my cautiousness was waning. Without experiencing any strain, I lifted some boxes, which weighed a few tens of pounds, into and out of my car. Afterward, I had the slightest sensation of something happening in my right groin. Looking at and feeling the area where the catheters had been inserted disclosed nothing. But later, when I took a shower, I noticed a roughly four square inch area of fresh hemoraging in the right side of the lower abdomen, which had been covered by my underwear when I had earlier inspected the catheter insertion area. The newly hemoraged area is centered some four or five inches away from the catheter insertion points.

This seems to suggest it is wise to remain very careful about groin stress for a long time post ablation. It also seems to suggest that tissue relatively far from the catheter insertion point may be somewhat damaged during the ablation.

Everything had been going so well I had been considering doing some wind surfing before all this summer's good wind surfing weather is gone. Now I think I'll choose to wait until next year.

I've purchased a new digital Holter instrument and will report on the somewhat unexpected results after a few more days of data acquisition. I have experienced no post ablation a-fib thus far.

Re: A little warning about post ablation tissue weakness
Author: Susan (---.proxy.aol.com)
Date: 07-03-05 12:29

Happy to hear that you are healing up.

I was fortunate in that I didn't experience any bleeding problems or even any bruising around the catheter sites.

My nurse's only advice to me was not to do any heavy lifting for a couple days. Heavy lifting as defined as anything over 20 pounds. Certainly not any warnings about lifting a 5 pound laptop!

I think that most of us typical Americans have had the same instructions. Must have been something about your physical condition that led Minerva to give you extra restrictions.

Susan

Re: A little warning about post ablation tissue weakness
Author: Jackie (---.159.248.186.Dial1.Chicago1.Level3.net)
Date: 07-03-05 13:18

Perhaps since I ve had my 11/03 ablation with Dr. Natale, protocols and discharge instructions have changed, but I was told to restrict activity for 48 hours with no lifting.

After that I was told I could resume normal exercise. Preferring to err on the side of caution, I resumed mild normal activity and then after 2 weeks went back to regular activities including workout/exercise.

I should also mention that I had forewarned Dr. Natale and team about my tendency for bleeding with surgery. I ve been identified as a wet surgical patient and they were aware that I didn t get along well with Coumadin for that very reason. I have low platelets which probably contributes to the problem so I also bruise easily.

That said, I did not have any bleeding from the insertion sites at any time post-ablation.

I was especially aware of the possibility, because my neighbor, who also had CCF ablation, popped her groin plug the morning after her ablation and had to stay a bit longer.

What I did experience, though, (and I ve reported this previously) was hematomas on both thighs where they press down manually while the catheters are being inserted and removed and the pressure packs placed. Two very large areas with accumulated blood appeared on both thighs once I was home. They extended down from the top of the thigh juncture where it meets the groin to about 6 -7 inches above each knee and across the top of the thigh extending to the inner thigh making the discolored area about 12 inches by six inches and were raised about half an inch with blood accumulation. One was sensitive; the other, lesser one was not.

I only mention my post-ablation experience because I know what happens when one is over-treated with Coumadin. This has happened to me enough to know what occurs since I ve several areas of massive hematomas as a complication. In two cases, my INR was over 8 (and I had cautioned them to proceed with dosing carefully) and the other time after ablation, I knew it was just my bruising/bleeding tendency coupled with the extreme pressure, compounded by unavoidable use of Coumadin.

So, Wil, just be sure you aren t being overtreated with Coumadin. If you don t know your platelet count, now would be a good time to start tracking it. Your new bleeding after the time lapsed is a concern.

Be well,

Jackie

Re: A little warning about post ablation tissue weakness
Author: Thomas (---.dyn.optonline.net)
Date: 07-03-05 13:25

Hi Wil-

As a side-note I was wondering what the holter instrument you bought is and how much it cost.

thanks! thomas

Re: A little warning about post ablation tissue weakness
Author: Susan (---.proxy.aol.com)
Date: 07-03-05 14:28

Wil,

I would also like to know about your holter monitor.

Susan

Re: A little warning about post ablation tissue weakness
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-03-05 15:24

Thomas:

You have unwittingly poked at a rather sensitive spot with your question about the cost.

I chose the Trillium 5000. I've been very pleased with the instrument, and even more pleased with its software. The software pulls out all the "episodes", of many different kinds; codes them with color; and allows me to easily look at them individually, in groups, and in total. The software seldom makes a mistake when identifying episodes. When it does, it is usually the result of electrical noise in the signal channels: I work around computer controlled machinery which generates a lot of electrical noise.

I'm finding that creating a printed record of all the episodes is less satisfactory. The software seems designed to specifically create the kind of records a physician would need to write a report. But, I am quickly becoming less inclined to want such printouts as the novelty of finding new data on my heart is wearing off.

I've been finding that the "episode" rate is varying wildly from hour to hour. For instance, during one seven hour period, the episode count per hour was sequentially: 9; 9; 110; 7; 124; 345; 14; etc. I haven't gathered enough data to be able to conclude whether there is any pattern to the "episode" rate variations. My tentative guess is that the rate variation is related to "whatever" changes are occurring in my heart, post ablation, and are unrelated to any external influences.

Another surprise was that the atrial episode rate seems unrelated to the ventricular episode rate. Sometimes the ventricular episode rate increases while the atrium is quiet; sometimes the reverse is true; sometimes both are high; and sometimes both are well behaved.

One of the bigger surprises was that when the "episode" rate is high, my pulse feels exactly like I am in a-fib, but the record clearly shows that is not the case. This has relieved me of the personal concern, and avoided the bothering of others, that would otherwise probably have been stimulated.

I put the Trillium in the pocket of a tee shirt; run the cable upward around the back of my neck and then downward to the seven electrodes on my chest; and then I get dressed as usual. The installation is completely hidden and does not inhibit me in any way during the day or while sleeping.

This is a far more satisfactory way to gather data on heart electrical behavior than the standard ECG desktop machine I used earlier. It requires a little initiative to get wired up, and it requires a little patience when waiting for the 24 or 48 hour recording period to end so I can take a look at the data. But, it doesn't require any other effort on my part to gather huge amounts of data, and it only requires a few minutes to get unwired and analyse the data.

The biggest benefit is that recording my heart waveforms, more or less continuously, motivates me to behave more intelligently, because if I misbehave I fear the record will likely remind me that there really was a penalty for my misbehavior.

The cost was $4300 (for a 4 ounce instrument); which is about 2.5 times the cost of gold per pound.

Wil

Re: A little warning about post ablation tissue weakness
Author: kathy (---.hsd1.ma.comcast.net)
Date: 07-03-05 15:24

Glad things are going well Will...I am 12 days post ablation also with no incidents of bleeding from my site....(and of course being a nurse, I was lifting things 2 days later that exceeded 25 pounds). I have not had any afib...but today experienced some of the symptoms I experienced with afib. Needless to say, my 1st thought was I was back in afib and had to know what type of arrhythmia was causing my nausea, feeling of uneasiness and SOB. I went and had an ECG done and I am having "nonspecific anrterolaterla T abnormalities", PACs, supraventricular bigemy. I also experienced this same arrhythmia after my 2nd ablation during the healing phase....although I'm not in NSR and have been for the last 10 days, at least it's not afib.

I am also interested in knowing about the Holter monitor as well...
Thanks

Re: A little warning about post ablation tissue weakness
Author: Wil Schuemann (209.216.182.---)
Date: 07-03-05 17:56

Just the above sampling of post ablation experiences suggest this is probably a very individual thing. I was probably affected by Carol's reported experience when I reacted (or over reacted) to my late hemorage, and it may just be a coincidence, or relatively unimportant.

My INR was back up to 2.4 last week, Jackie, after gradually increasing since the ablation, and I've been coasting along on a relatively conservative dosage of Coumadin since then. Is this sufficient to satisfy your concern, or is there something more I should be knowledgeable about?

I am 68, and that might have influenced the advice I received. I certainly don't qualify for frail (though I can't predict how a 30ish nurse might judge that), and suspect the variation in post ablation advice is more likely driven by the medical grape vine, input from corporate lawyers, recent experiences at the clinic, the phase of the moon, etc.

As I said, a higher number of "episodes" can feel just like a-fib when monitoring my pulse, which can be experienced with nothing more than PACs, PVCs, and short term Tachycardia (a few seconds per episode). I don't know whether these kind of "episodes" qualify for the terrible sounding terms Kathy received as her diagnosis.

Wil

Re: A little warning about post ablation tissue weakness
Author: Carol Andrews (---.proxy.aol.com)
Date: 07-04-05 06:09

Wil,

You do realize that bleeding from catheter insertion points is entirely different from what I experienced, don't you? It also had nothing to do with the hematomas that typically occur at the insertion points. (I had one in the right groin, but it went away after a few days. I didn't worry about it.)

The bleeding and massive hematoma that almost cost me my life was entirely internal, with no evidence of bleeding

from any of the catheter sites. It was deep in my abdominal cavity, behind the peritoneum. I was swollen with accumulated blood on the left side and experienced intense pain (worse than childbirth) when I arrived at the ER and was then hurried into emergency surgery at 2 AM.

This insidious kind of internal bleeding is a potential silent killer. The only warning that I was loosing blood (half my blood volume) was the sudden intense pain. I assumed that the gradual swelling and tenderness of my hip and back was just part of the irritation from the ablation.

Carol

Re: A little warning about post ablation tissue weakness
Author: George (---.dnvr.qwest.net)
Date: 07-04-05 06:10

Wil,

My Polar S810 does not provide nearly the information as your Trillium, however it does provide a satisfactory ectopic beat count. I've worn the Polar in tandem with a simple ECG setup I have and can match the Polar waveforms to PAC/PVC waveforms on the ECG. One thing I have to be careful with is to remain very still while sampling. Therefore I sample during morning & evening meditations.

You said, "I've been finding that the "episode" rate is varying wildly from hour to hour."

I too have found great variability in PAC/PVC rates, though I generally sample less than an hour -- the variability occurs even in 5 or 10 minute sample "bins."

I take mineral & other supplements 2x/day. I sample prior to taking my supplements, so my sample is generally ~ 11 hours after having taken supplements. I would expect that my serum level of these minerals would be at a low point, for me (not counting the diurnal variation overprint). If I sample again a couple of hours after ingesting the supplements, I can see a clear effect from taking them. The ectopic counts drop, many times to 0/hour.

I've also noticed that anger and fear can raise the ectopic counts dramatically. So does sustained heavy exercise (4-8 hours at > 150 BPM). However, ingesting minerals will shortly drop the counts again, returning them to normal.

Good luck on your continued recovery in NSR!

George

Re: A little warning about post ablation tissue weakness
Author: Jackie (---.159.131.41.Dial1.Chicago1.Level3.net)
Date: 07-04-05 09:32

Wil - 2.4 INR is right where they want you to be. My concern was a fresh bleed at the site where it should have been totally healed and free from such as you described; but if it's back to normal, then good. No concern. I've just had so many alarming incidents with Coumadin, I'm probably just overly cautious.

I was 67 when I had the PVI and again, as I said, I received no limitations on lifting after 48 hours. However, in some people, and especially those who have been on Coumadin for any length of time, capillary fragility is a reality so that could be why you received the instructions you did. Or quite possibly (as you perceptively suggested, 68 v. thirty something may have been intuitive on her part). I used to be able to really guess an age easily. The more seasoned I become, the more difficult it is to guess younger ages....everyone looks very young these days! :)

Neither here nor there; in the past. Onward and upward. Good positive outlook and positive results are the instruction for the day.

Hopefully, you'll still be able to get in some windsurfing.

Good luck with the rest of your recovery.

Jackie

Re: A little warning about post ablation tissue weakness
Author: Kevin J (---.access.as9105.com)
Date: 07-04-05 10:16

Very interested to read that bruising around the groin area is normal.
I am now 3days post PVA in London,UK,and beginning to turn a very bright purple shading to black and yellow on the edges. This is mainly only on the left side where they entered via the artery. The right side was a vein entry which seems to be OK.
I was not given any advise about lifting,only to take it easy for a few days,and then get back to normal.
Today has been quite a good day,one or two extra beats but generally not too bad.
I was quite down on Sat when I was experiencing very similar problems as before the ablation,but as I said today has been mostly NSR,which is,as we all know a great feeling.

good luck on your recovery

Kevin J

Re: A little warning about post ablation tissue weakness
Author: SusanR (---.proxy.aol.com)
Date: 07-04-05 12:36

Wil,

I really didn't mean to imply that you were "frail". I was thinking about the difficulties you described experiencing right after your ablation, once you had gotten back to the Guest House. You wrote that you had had episodes of dizziness and feelings that you were about to pass out. If you told Minerva about those episodes, maybe that is why she asked you to be a little more cautious.

From your description, it sounded like you went through your ablation and the aftermath in Cleveland by yourself. This might be a good time to recommend to people thinking about ablation that it is a good idea to bring someone along with you who can do the running for you--for sandwiches, newspapers, medical supplies, etc. I really felt sad for you when you described trying to get to the drug store behind the Guest House and almost, or did, fall down.

I'm also curious, Wil as to why you wanted to get the Trillium 5000. I thought that the transtelephonic monitor I was given before I left the CC was a pretty nifty gadget. Being able to call in any suspected problems and get an instant reading by the doctors and nurses. Just curious to know why
you wanted something to record everything that was going on. Even though you knew you couldn't interpret it as a professional would be able to.

Happy to hear that you are feeling well.

Susan

Re: A little warning about post ablation tissue weakness
Author: Wil Schuemann (209.216.169.---)
Date: 07-05-05 10:47

Hello Susan,

Reading your questions causes me amusement. What you are troubled by is what the researchers call my "extreme male brain", which in this case shares many of the characteristics of what is called "Asperger Syndrome". Individuals

like me will be largely incomprehensible to you. If you want an introduction to such individuals look up Baron-Cohen's book, "The Essential Difference".

I eventually determined that the weakness was a drug reaction to the Toprol. I would not talk to Minerva about such a problem unless it overwhelmed me. Managing the weakness was a small challenge that I met successfully. Your reaction should have been admiration for successfully managing the weakness problem without asking for help from others, rather than one of sadness. Managing the weakness problem without falling down was just a part of the overall challenge.

The Trillium 5000 is similarly an expression of the "extreme male brain"; obsessive independence, obsessive self sufficiency, and obsessive control. Depending on CCF's monitor would have deprived me of information, and hence, some control over my own destiny. Before long I will have educated myself to understand everything there is to know about the ECG waveforms when in NSR, just as I did for the ECG waveforms when I was in continuous a-fib.

So, just smile, and be grateful for the benefits that males such as me create for our culture. We may be a little strange, but you don't have to fear us nor dislike us. We may be blunt and candid, but we are not devious nor vicious.

http://www.afibbers.com/forum/read.php?f=6&i=12889&t=12889#reply_12889
Post ablation Holter data report.
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-09-05 17:30

I had been considering purchase of a digital Holter monitor, to replace the used Hewlett-Packard ECG instrument I had been using to monitor my heart electrical signals while in continuous a-fib. After the recent ablation I did purchase a digital Holter (Trillium 5000) to monitor my heart's behavior during the healing process. The results, so far, are presented in reverse chronological order. (supraventricular = atrial)

On July 07 (15 days post-ablation, 24 hours of data).
Average heart rate: 61
Single ventricular ectopics: 13
Ventricular couplets: 1
Single supraventricular ectopics: 68
Supraventricular couplets: 6
Supraventricular tachycardia episodes: 3 (totaling 11.3 sec, longest 6.3 sec, highest rate 105)

On July 03rd (11 days post-ablation, 24 hours of data):
Average heart rate: 60
Single ventricular ectopics: 42
Single supraventricular ectopics: 75
Supraventricular couplets: 6
Supraventricular tachycardia episodes: 5 (totaling 12.8 sec, longest 4.5 sec, highest rate 113)
Irregular rhythm episodes: 1

On June 30th (8 days post-ablation, 24 hours of data):
Average heart rate: 60
Single ventricular ectopics: 209
Single Supraventricular ectopics: 177
Supraventricular couplets: 483
Supraventricular tachycardia episodes: 289 (totaling 11.7 min, longest 18 sec, highest rate 119)
Irregular rhythm episodes: 2

The total sum of heart ectopics/episodes, of all kinds, during a 24 hour Holter:

91 total ectopics/episodes on Jul 07 (15 days post ablation);
129 total ectopics/episodes on Jul 03 (11 days post ablation);
1160 total ectopics/episodes on Jun 30 (8 days post ablation);

The ablation was by master artist Dr. Natale, at CCF, on June 22.

The steady decline of ectopics/episodes, with time post ablation, is reassuring. We'll have to wait and see if this pattern continues as healing proceeds.

The most surprising discovery has been that the irregularly irregular pulse pattern, which I came to know so well during my years of continuous a-fib, can be duplicated while the heart is beating normally, if irregularly, because of combinations of ectopics and short bursts of tachycardia. The irregularly irregular pulse is therefore usually, but not always, indicative of the presence of a-fib.

The tachycardia episodes are the most disturbing. It is difficult to tell if these episodes: are caused by a-fib; or are some combination of a-fib and nsr; or are all nsr at an above average heart rate because of some aberrant timing mechanism located somewhere in the atrium. I suspect the middle choice (a weakly stable a-fib and SV node fighting for control) is probably the correct explanation.

The process of gathering the 24 hours of Holter data is easy, as any of you who have had a Holter test can attest. My Holter is remarkably immune to physical motion and muscle contractions, which must be minimized when gathering heart data with normal desktop ECG equipment.

The data reduction is also remarkably easy. The 24 hours of data must be uploaded from the Holter to a computer, and in about 5 seconds the 24 hours of data is uploaded, analysed, the summary report ready, and all the events/episodes which occurred during the 24 hours are easily accessible with the aberrant relevant portion of the heart electrical waveform coded in color. Printing out all the data, including the relevant portions of the 24 hours of electical waveforms containing the ectopics/episodes does take a few minutes, mostly because my color printer is a little slow.

The algorithm used to analyse the 24 hours of data is extremely effective and accurate. It sometimes mis-identifies a noisy heart signal as an ectopic/episode, but not often, and I have yet to find an ectopic/episode the algorithm missed.

Re: Post ablation Holter data report.
Author: George (---.dnvr.qwest.net)
Date: 07-09-05 21:31

Wil,

This is interesting to me.

The data I've seen says that if ectopics reach 300/hour (5/minute) this is a good indicator that afib will follow.

The highest rate you quote, 1160/day is 48/hour, vastly below 300. With my supplement program, I try to keep mine around 10/hour, with the range of 0 to 20 /hour. Your last two readings are 5 and 4 ectopics/hour. This is obviously excellent, as is the declining trend!

I find it interesting that the ratio of ventricular to atrial ectopics has gone from 1.18 v:a to to .19 v:a. I've often wondered about the significance of the ratio of ventricular to atrial ectopics in my own, much less specific, data.

Thanks for posting & continued NSR!

George

Re: Post ablation Holter data report.
Author: Pam Walter (---.155.30.72.Dial1.Baltimore1.Level3.net)
Date: 07-10-05 04:09

Sounds like you are headed in the right direction, Wil.

I wish you continued improvement. That must feel wonderful to you.

Pam

Re: Post ablation Holter data report.
Author: kathleen (---.taconic.net)
Date: 07-10-05 04:23

Wil, since ventricular ectopics originate in the ventricle, and since the ventricles have not been touched during ablation work in the atria, and since the atria and the ventricles, except for the AV node, are electrically isolated, why then should the ventricles be showing more ectopics after ablation? I find that puzzling. What's your hypothesis? Thanks (and I'm glad you're doing so well). Kathleen

Re: Post ablation Holter data report.
Author: Carol Andrews (---.proxy.aol.com)
Date: 07-10-05 06:40

Wil,

Don't you want to get your mind off afib now? We afibbers tend to be an obsessive-compulsive lot!

I think the mind-body connection cannot be overlooked and that it is perhaps best not to focus on afib and any rate and rhythm irregularies that may occur after an ablation.

Carol

Re: Post ablation Holter data report.
Author: Carol Andrews (---.proxy.aol.com)
Date: 07-10-05 06:45

P. S. Wil,

What medications does Natale have you on after your ablation? And for how long?

Carol

Re: Post ablation Holter data report.
Author: Susan (---.proxy.aol.com)
Date: 07-10-05 15:08

I just got my results from the CC of my 24-hour holter monitor. I have no idea what model or make the monitor was, or how the results compare with Wil's Trillium 5000, but it was good news. 9 incidents of stuff in a 24 hour period. The longest was a 6 heart beat run of sinus tachycardia. the rest were just momentary PACs.

I am now off all afib drugs. Including coumadin, which I have been on since the day I was diagnosed, in October of 2001.

It truly is a great feeling.

Susan

Re: Post ablation Holter data report.
Author: Charles (---.wc-eres.charterpipeline.net)
Date: 07-10-05 21:13

Wil,

Thank you for sharing your Holter data. I have been tracking your postings and it is good to know you are enjoying NSR.

I would like to know where you purchased your monitor and related software and the price if possible.

Thank you,

Charles

Re: Post ablation Holter data report.
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-11-05 21:58

George:
When I was in continuous a-fib I could only keep track of the ventricular ectopics. Initially, the average rate was about 80 per hour, with a range of 0 to 120. After a year of continuous a-fib, and various changes, the average decreased to 20 per hour, with a range of 0 to 70. After another year, and more changes, the rate had dropped to about 1 per hour, with a range of 0 to 5. Later, the rate went back up, but I no longer plotted the data. I am guessing it was an average of about ten per hour. The rates then and now show no particular pattern that I understand. I can just as easily convince myself that the changes I made helped, as I can that nothing I did made any difference.

Kathleen:
I believe that humans are far more more complex than we are capable of understanding. I am therefore pragmatic about a-fib. If we find something which helps, good. I find gathering data always creates more questions than answers. I don't have any hypothesis.

Carol Andrews:
I'm on 50 mg of Toprol and 200 mg of Flecainide per day for two months. I don't notice the Flecainide. But the Toprol causes neurological symptoms, especially regarding eye coordination when my eyes are off axis in any direction. I suspect that it affects my heart waveforms some, but I won't know for another six, or so, weeks.

Charles:
Their main web site is http://www.forestmedical.com, but it does not list the 5000. The price I paid for the 5000 was $4300. The salesman reduced the price that far too easily. I suspect a larger discount is available if you are a good negotiator. I am not. If you are serious about obtaining a 5000 I should be able to find the web site which listed the 5000.

http://www.afibbers.com/forum/read.php?f=6&i=13758&t=13758#reply_13758
Continuing Holter data - post Dr. Natale PVI
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-23-05 11:03

I purchased a Trillium 5000 digital Holter monitor, to replace the used Hewlett-Packard ECG instrument I had been using to monitor my heart electrical signals while in continuous a-fib, to monitor my heart electrical behavior post ablation for longer periods while living normally.

The Trillium results are presented in reverse chronological order. (supraventricular = atrial)

On July 22 (30 days post ablation, 24 hours of data)
Average heart rate: 64
Single ventricular ectopics: 3
Ventricular couplets: 1
Single supraventricular ectopics: 74
Supraventricular couplets: 2
Supraventricular tachycardia: 2 (totalling 3.8 sec, longest 2.2, highest rate 109)

On July 18 (26 days post ablation, 24 hours of data).
Average heart rate: 61
Single ventricular ectopics: 54
Single supraventricular ectopics: 108
Supraventricular couplets: 7
Supraventricular tachycardia: 3 (totalling 5.7 sec, longest 2.2 sec, highest rate 108)
Irregular rhythm: 1 (12.1 sec)

On July 15 (23 days post ablation, 24 hours of data).
Average heart rate: 60
Single ventricular ectopics: 8
Single supraventricular ectopics: 60
Supraventriculare couplets: 2
Supraventricular tachycardia: 1 (1.7 sec, rate 104)

On July 10 (18 days post ablation, 24 hours of data).
Average heart rate: 57
Single ventricular ectopics: 1
Idioventricular episode: 1 (2.4 seconds)
Single supraventricular ectopics: 85
Supraventricular couplets: 5
Supraventricular tachycardia: 3 (totalling 8.0 sec, longest 3.6 sec, highest rate 121)

On July 07 (15 days post-ablation, 24 hours of data).
Average heart rate: 61
Single ventricular ectopics: 13
Ventricular couplets: 1
Single supraventricular ectopics: 68
Supraventricular couplets: 6
Supraventricular tachycardia episodes: 3 (totaling 11.3 sec, longest 6.3 sec, highest rate 105)

On July 03rd (11 days post-ablation, 24 hours of data):
Average heart rate: 60
Single ventricular ectopics: 42
Single supraventricular ectopics: 75
Supraventricular couplets: 6
Supraventricular tachycardia episodes: 5 (totaling 12.8 sec, longest 4.5 sec, highest rate 113)
Irregular rhythm episodes: 1

On June 30th (8 days post-ablation, 24 hours of data):
Average heart rate: 60
Single ventricular ectopics: 209
Single Supraventricular ectopics: 177
Supraventricular couplets: 483
Supraventricular tachycardia episodes: 289 (totaling 11.7 min, longest 18 sec, highest rate 119)
Irregular rhythm episodes: 2

The total sum of heart ectopics/episodes, of all kinds, during a 24 hour Holter:

82 total ectopics/episodes on July 22 (30 days post ablation);
171 total ectopics/episodes on July 18 (26 days post ablation);
71 total ectopics/episodes on July 15 (23 days post ablation);
95 total ectopics/episoces on July 10 (18 days post ablation);
91 total ectopics/episodes on Jul 07 (15 days post ablation);
129 total ectopics/episodes on Jul 03 (11 days post ablation);
1160 total ectopics/episodes on Jun 30 (8 days post ablation);
The ablation was by master artist Dr. Natale, at CCF, on June 22.

The next ectopic/episode data transient should occur at two months post ablation when the Flecainide and Toprol will be discontinued.

Generally, the pattern seems to be that most of the ectopics/episodes originate in the atrium, but all the atrial ectopic/episode waveforms are very similar, perhaps indicating a single source. The ventricle ectopic/episode waveforms are fewer, but more variable, probably indicating multiple sources.

Another pattern is that ectopics/episodes are often more likely to occur just after lying down to sleep and just prior to waking up. These are periods of relatively large chemical transients related to sleeping/waking transitions.

Even with so much data, I have not noticed any connection between eating or behavioral habits and the ectopic/episode rate.

Based on a private communication with PC, these 24 hour ectopic/episode totals are relatively low, compared to the experience of other a-fibbers.

A pattern in my own behavior, relative to gathering the Holter data, has emerged. A few days after gathering the last 24 hours of Holter data, curiosity and duty result in getting wired up for another 24 hours of data. After about 16 or 18 hours I become impatient to end the data gathering and get unwired. The solution has been to start the data gathering period in the early morning so I can sleep during the last eight hours of the 24 hour period, and then get unwired soon after I awake.

Re: Continuing Holter data - post Dr. Natale PVI
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-24-05 11:22

I was checking through the July 22 waveforms and found that the waveform reported as a Ventricular Couplet was actually Ventricular Tachycardia (VT). It lasted for 1.1 seconds at 270 bpm. While not necessarily life threatening, finding VT had happened was definitely scary, and it would have made me happier had it not happened. The presence of ventricular tachycardia suggests some degree of damage in the ventricular wall, in order to set up the possibility of the reentrant pattern necessary to maintain the 270 bpm rate. The next SA pulse coming down from the atrium was luckily properly phased to depolarize the ventricle, thereby stopping the ventricular tachycardia.

A few days previously, in a conversation with Minerva at Cleveland Clinic, it was decided to reduce my Toprol (beta blocker) dose to half what it had been since the ablation. The Toprol is intended to somewhat compensate for the pro-arrythmic properties of the Flecainide. In this case the reduction of Toprol dosage might have tipped the pro/anti arrythmic balance toward pro-arrythmic just enough to permit the ventricular tachycardia to occur.

I think I'll go back to the original Toprol dose, and just live with the increased side effects. Hopefully, then I won't be seeing any more ventricular tachycardia.

The second problem is that the Trillium incorrectly analyzed the waveform. I can't find any way to change the Trillium settings to cause it to correctly analyze the waveform, nor can I find any way to move the waveform from the couplet to the tachycardia category. I'll give Trillium a call in the next few days to ask them about this. It is the first error of the Trillium algorithm that I've found.

As I've said previously, the feedback from the Trillium helps keep me serious about my heart problem by providing sobering information that I would otherwise be unaware of.

Re: Continuing Holter data - post Dr. Natale PVI
Author: kathleen (---.taconic.net)
Date: 07-24-05 18:42

Wil, one of the danger signs for PVC's (ventricular ectopics) is the existence of multiple foci. You saw that the waveforms for your ventricular ectopics were different, indicating several foci. That, combined with the ventricular tachycardia, is something to watch. There is no electrophysiological reason why atrial fib should trigger ventricular ectopics - the two chambers are electrically isolated. The only "link" might be that whatever biochemical/anatomical/?? malfunction is/was affecting the atria is also bothering the ventricular electrically active cells (all of them in fact are quite electrically active). Not to add a scare, but rather a caution.

Doctors who are focussed on atrial fib are not necessarily focussing on problems in the ventricles - even very good doctors. (PS, I had five NYC cardiologists at four different medical centers - Lenox, NYU, Mt. Sinai and Columbia/Presbyterian - three with national reputations "miss" the importance of pulmonary hypertension (estimated pressure of 45, well over high normal of 25) in my very first AF diagnostic workup over two years ago - and now I am faced with dealing with that problem, two years behind schedule).

All my best to you. Kathleen

Re: Continuing Holter data - post Dr. Natale PVI
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-24-05 19:41

Thank you for the concern Kathleen. I understand everything you are saying. The optimistic perspective is to assume the Flecainide is responsible for creating an increased tendency for ventricular tachycardia. I'll find out in another month when the Flecainide will be discontinued. Then we will also begin to get data on how much the Flecainide has been suppressing atrial misbehavior.
http://www.afibbers.com/forum/read.php?f=6&i=13935&t=13904#reply_13935
Heart monitors (wrist-type)
Author: Mel (---.range86-129.btcentralplus.com)
Date: 07-26-05 13:55

Hi all. Posted a couple of times before but not for a while. Had a quick look in the archives but didn't find what I was looking for, so here's a question: has anyone used any of the wrist-only type heart rate monitors (no chest strap) and have any feedback as to their usefulness? Had a look on the web and there seems to be quite a lot of models with varying characteristics. What I want is to get a fairly quick, accurate readout as I think I have frequent short runs of fibrillation (only a few seconds) and lots of spells of PACs. Never seem to be able to get to my stethoscope (they mostly happen at night) in time! Presumably though, it might be difficult to catch a brief AF on such a monitor as I think it takes a good few seconds to get a readout - ? Any help gratefully received. All best to all here.

Re: Heart monitors (wrist-type)
Author: George (---.biz.mindspring.com)
Date: 07-26-05 14:09

My experience is with a chest strap (Polar S810) - as I think you need to record beat to beat to do what you want. Every other monitor I've seen averages for 5 to 15 seconds. If in afib, you will see your rate bouncing around, but the response will be muted because of the averaging. The PAC's, PVC's & afib are obvious on a beat to beat play out.

George

Re: Heart monitors (wrist-type)
Author: Mel (---.range86-129.btcentralplus.com)
Date: 07-26-05 14:45

Thanks for the quick response and info, George - that helps. Cheers, Mel.

Re: Heart monitors (wrist-type)
Author: George (---.biz.mindspring.com)
Date: 07-26-05 14:54

By the way, the Polar will record 30,000 beats, so you can wear it all night & download data in the morning. There is some issue with the chest strap loosing electrical contact with the skin which can cause aritfacts in the data. ECG gel helps this issue. These artifacts won't make any difference in seeing afib, but can be mistaken for a PVC or PAC.

Re: Heart monitors (wrist-type)
Author: Mel (---.range86-129.btcentralplus.com)
Date: 07-26-05 15:03

So if that happens (loss of contact), is there actually no way of distinguishing between artifacts and PAC/PVC? Is that the case with all monitor types?

Re: Heart monitors (wrist-type)
Author: George (---.dnvr.qwest.net)
Date: 07-26-05 17:25

With a finger pulse monitor that I have (www.freezeframer.com) the artifacts are obviously just that (this is a finger cuff connected to either a serial or USB computer port while recording software is running).

On the Polar, many times one lead will drop. This gives rise to a 1/2 rate reading which is also what happens with a PVC. I've also gotten high spikes which mimic PAC's. I did sleep with it once. I had few PAC/PVC's so couldn't have had a huge problem with artifacts. I normally take a reading during morning & evening meditation so that artifacts are not a problem. Tightening the strap and ECG gel also minimize the problem.

I thought I saw a chest transmitter that actually had ECG stick-on leads with wires on a website one time. However I've never been able to located it again. I've not yet contacted Polar about this (it may have been somebody elses). This would really help. It hasn't been enough of a problem for me to spend a lot of time trying to solve it. I just make sure I keep still when I sample.

George

Re: Heart monitors (wrist-type)
Author: George (---.dnvr.qwest.net)
Date: 07-26-05 18:43

Here is an ECG monitor adaptation for a horse using a human chest strap transmitter. Something like this might work for a human.

http://www.vmaxept.com/Tran-lead-adapt-kit.htm

Re: Heart monitors (wrist-type)
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 07-26-05 20:02

There are four levels of useful instrumentation, with the more useful forms becoming progressively more expensive.

George, above, described the simplest form of instrument, the output of which can be interpreted to give useful information on premature contractions and a-fib. I have not used these instruments and questions should be directed to George. I imagine that these instruments are normally useful only when the patient is quiet and relaxed.

The next level is desktop ECG instruments, much like the doctor uses to obtain an ECG in his office. The advantage is that the output contains much more information. The disadvantage is that the patient must be relaxed and quiet to obtain useful output, and the ECG machine normally samples only a few seconds of data. ECG machines can be used to record longer periods of time, but the patient must remain relatively relaxed and quiet for the entire time, or the output becomes meaningless. The cost is usually less than $1000 for older used machines.

The highest level are Holter monitors, which come in two forms.

The older Holters use tape cartridges and are physically bigger. They require more time to unload and analyze the data, and the quality of the data is of somewhat lower quality, but still very useful. However, the units are designed to be resistant to patient motion, and useful data can be obtained while living normally during periods of 24 hours or more. The cost is usually between $1000 and $2000.

The newer Holters are digital and are much smaller and lighter (shirt pocket sized and weigh a few ounces). They unload and analyze the data in seconds and provide very high quality output. The cost is usually between $3000, and $4500.

As has been often mentioned on this web site, a-fib and premature contractions often occur when the patient goes to bed, or wakes up, or rolls over in bed, or bends down to pick something up, etc. Only the Holter instruments are useful in these situations.

Re: Heart monitors (wrist-type)
Author: Lew (---.nas1.mbrg.pa.net)
Date: 07-27-05 07:09

I am in permanent af and I can accurately determine my heart rate with
a polar chest transmitter and my digital hearing aid. I have a telecoil program on the aid and when in the telecoil mode I hear the heart beats
loud and clear.

Re: Heart monitors (wrist-type)
Author: Mel (---.range86-129.btcentralplus.com)
Date: 07-28-05 03:04

Thanks very much George, Wil and Lew. Now I'm better informed. Best wishes to all of you.

http://www.afibbers.com/forum/read.php?f=6&i=23677&t=23666#reply_23677
HR recorders or EKG machines for patients to buy?
Author: Philippe (---.dyn.optonline.net)
Date: 01-13-06 17:26

Are there any EKG machines or otherwise equivalent machines that would be consumer grade, i.e. somehow affordable, say less than $1,000? I wish I could document whatever episodes I have (Afib / flutter / sinus tacchy) as I seem to get all of the above following my two ablations.

I don't mind having to stick 3-4 electrodes on my chest once in a while.
It seems that whenever I carry a holster for 24h, nothing ever happens, and then I trigger within hours of returning it.
I really would like my EP and surgeons to have a clear read on what's happening to me.

Re: HR recorders or EKG machines for patients to buy?
Author: HenryA (---.lndsd101.pa.comcast.net)
Date: 01-13-06 17:37

I have had my own computer-based EKG machine for several years. It is made by Vernier Software & Technology:

www.vernier.com

It cost me $444.46 in 2002.

HenryA

Re: HR recorders or EKG machines for patients to buy?
Author: Bob K. (---.anhmca.adelphia.net)
Date: 01-13-06 18:02

HenryA, Is this what you got?

EKG sensor $142
http://www.vernier.com/probes/ekg-bta.html

LabPro interface $220.
http://www.vernier.com/mbl/labpro.html

Logger Pro 3 Software $149,
http://www.vernier.com/soft/lp.html

total $511

Did I miss anything? Anything you don't like about your system? Any problems or disappointments?

Bob

Re: HR recorders or EKG machines for patients to buy?
Author: Wil Schuemann (---.broadband.gorge.net)
Date: 01-13-06 18:02

I have a Hewlett Packard ECG instrument which I used for four years almost daily until I purchased my own Holter.

The HP is a high quality medical instrument and is surplus to my needs. You can contact me directly by clicking on the above address link. The price will be right.

The unit is complete with manuals, cables, spare paper and pens, and electrodes.

Re: HR recorders or EKG machines for patients to buy?
Author: Marian from Miami (---.mia.bellsouth.net)
Date: 01-13-06 19:30

Philippe,

I use a 3 lead portable monitor called Active ECG. It gives a very clear readout of Lead II of the standard ECG machine. Costing $699, it connects to a Palm Pilot and allows you to view and record your heart activity. Up to 20 rhythm strips can be recorded for one patient at a time. Then, you simply connect your Palm Pilot to your computer and Hot Synch it. The software that comes with the machine allows you to print out your rhythm strips from your computer. I bought an inexpensive Palm Pilot VX on E-Bay and it has worked great. The portable monitor is small enough to fit in my purse, along with the Palm Pilot. This has allowed me to record rhythm strips even when at work.

http://www.activecenter.com/

Marian

Re: HR recorders or EKG machines for patients to buy?
Author: HenryA (---.lndsd101.pa.comcast.net)
Date: 01-13-06 19:48

Bob,

You got it right.

I like the system. It works fine and Vernier is always ready to give help on the telephone. They take great pride in their products which are used in many schools and colleges. Mr Vernier himself will talk to you if you wish.

The electrodes are important for good results. I bought a package of electrodes from them.

You can record your EKG continuously for several minutes if you are looking for occasional glitches.

It is easy to connect and operate. You connect the ground wire to one ankle and the other two wires, one to each wrist.

It is a single channel system - not the 12 channel system that doctors use.

HenryA

Medisana
Author: JohnW (---.pt.lu)
Date: 01-14-06 03:08

I believe there was some information about a medisana product on this bulletin board recently.

Re: Medisana
Author: JohnW (---.pt.lu)
Date: 01-14-06 03:17

medisana cardiocheck

http://www.medisana.de/de/products/therapy/53000.html

Re: HR recorders or EKG machines for patients to buy?
Author: Bob K. (---.anhmca.adelphia.net)
Date: 01-14-06 05:57

HenryA, For your EKGs of NSR do you clearly see the p-wave? For your EKGs of afib do you see the p-wave disappear and do you see the fast oscillations of the atrial contractions of afib along with the slower rate of contractions of the ventricles?

If you feel like it, would you care to email me one of your EKGs with NSR and one with afib, if possible? If not, that's OK too. The information you've provided so far is very helpful.

Bob

Re: Medisana
Author: Marian from Miami (---.mia.bellsouth.net)
Date: 01-14-06 07:21

John,

Is there a website that has this information in English? Or a way to translate the German?

Thanks.

Marian

Re: Medisana
Author: Susan (---.socal.res.rr.com)
Date: 01-14-06 09:17

I was the one who posted on the Cardiocheck.
It is sold only in Germany and the UK and on Ebay [from a dealer in Europe]. It is very small, has two leads [both thumbs along with the liquid contact drops which I had Germany's lab give to me so my husband can reproduce it]. I used it last week when I was in the ER and hospitalized. It works great for an inexpensive [$120+] ECG but doesn't have a printer. It does have the memory of the last reading.

Its so small it fits in my purse and has been very useful. Last week I was using it and watching my pulse jump around from 189-210...useful info for the ER.

Re: Medisana
Author: Susan (---.socal.res.rr.com)
Date: 01-14-06 12:22

http://www.sharperimage.com/us/en/catalog/productdetails.jhtml?sku=ME801#tabs

has a photo and description of this portable EKG unit

Re: Medisana
Author: Marian from Miami (---.mia.bellsouth.net)
Date: 01-14-06 12:41

Susan,

Thank you for the information. It's too bad that one cannot print out the rhythm strips. My ActiveECG connects to my Palm Pilot, and from there to the computer, enabling me to print. However, it surely can be useful for a quick identification of fib/flutter.

I didn't find any on E-Bay right now.

Marian

Re: Medisana
Author: Bob K. (---.anhmca.adelphia.net)
Date: 01-14-06 13:27

The Medisana was discussed on a previous thread.

http://www.afibbers.com/forum/read.php?f=6&i=21311&t=21175&v=t

It gave some EKG parameters but not the EKG plot. I was interested in looking for the p-wave which is the definitive evidence for afib when it is missing from the EKG. Also looking for the fast oscillations of the fibrillating atria. This info isn't given on the Medisana.

Re: Medisana
Author: Susan (---.socal.res.rr.com)
Date: 01-14-06 15:05

I was wondering why FDA won't allow Medisana's Cardiocheck to be shipped to the US...so I just did a google and found the following link, don't know the accuracy of her comments. BTW I did find a pharmacy in the Netherlands that have it, along with the printer but can't ship to the US.

http://www.mvpsupport.com/ubb/Forum3/HTML/000184.html
[also click on page 2 on the bottom]

"The Medisana Cardiocheck was pulled from the shelves in the US because the FDA said it provided too much information for the average consumer. It shows the three major funtions of an ecg and the medical concern is that patients will use it to self diagnose with. It shows an very accurate reading of my skipped beats and exactly how long of a pause occurs when it is reading them. It also shows the most accurate beat to beat reading of a pulse rate. It shows the QRS complexes, so one can tell if they are at risk with an arrhythmia and it also shows the ST waves so one can see how well blood is circulating in their heart and if they are at risk for the damage of a heart attack. It comes with an easy to understand instruction booklet for consumers in laymens terms (which is done in six different languages) I find it a valuable tool to use as a biofeedback messurement when practicing the cardiac coherence technique. I believe it is the most valuable tool in my possession and wish that it was not so guarded in many areas. I am posting links of retailers that may carry it. I wish consumers would advocate to put it on the market as more avalible to the public."

Lisa

http://www.rikaton.ee/eng/cardioeng.html
Cardiocheck Heart Pulse Analyser

http://www.kelkoo.nl/b/a/ss_medisana.html
medisana : Kelkoo - voordeligste prijzen :

http://www.ycyhealth.com/heart_pulse_analyser.htm
Heart Pulse Analyser

http://www.alive.nl/cardiocheck.htm
Medisana Cadiocheck Hartcontrolemeter

http://www.teamdrugs.com/securestore/c153855.2.html
Team Drugs - Blood Pressure , Cardiocheck Monitors - ClicShop

http://www.mundogar.com/latienda/producto.asp?sku=5005
MUNDOGAR: Electrocardiograma Medisana CardioCheck

http://medisana.de/en/products/therapy/53000.html
Medisana - Cardiocheck - Cardiac Monitoring

Re: HR recorders or EKG machines for patients to buy?
Author: HenryA (---.lndsd101.pa.comcast.net)
Date: 01-14-06 18:21

Bob,

I have emailed you 2 EKGs.

The P-Waves are quite visible.

I had been cured of Afib by Dr McCarthy prior to getting the EKG machine so I cannot help you there.

It was when the Flutter persisted for 8 months after the Maze that I decided to get the device.

I, too, was desperately looking for P-Waves. As I came around from the sedative after the first ablation, I asked Dr Schweikert "Are there any P-Waves?".

He answered "P-Waves? We've got loads of P-Waves".

Good luck!

HenryA

Re: HR recorders or EKG machines for patients to buy?
Author: Bob K. (---.anhmca.adelphia.net)
Date: 01-15-06 05:32

Thanks again Henry. I just noticed your message.

That's a nice P-wave story.

Bob

Re: HR recorders or EKG machines for patients to buy?
Author: George (---.hlrn.qwest.net)
Date: 01-15-06 15:40

I also have a Vernier.

Using a slightly different set of interfaces, I put the system together for ~$200.
See: http://www.afibbers.com/forum/read.php?f=6&i=6277&t=6277#reply_6277

You should note that the Vernier has no "intelligent" software with it. Unlike the holter monitors that PC and Wil have, which will look for abnormal beats. The Vernier software merely records the data. Their market is not the medical market, but the high school science market.

What you get is a 3 lead ecg plotting potential (mv) vs time. In the above link, I explain how to set up the software to get a rolling window of data. Like many of these devices, it very much helps to sit still while taking a reading so that you avoid bad data.

If you have the sample interval set to a small size & take a long sample (20 or 30 minutes), you will get several hundred thousand data points (the millivolt reading at that instant). This can be a bit much for the software to handle quickly.

It does work & give you the waveforms so you can "see" what your heart is doing.

I find my Polar HR monitor to be more efficient if I just want to count PVC's & PAC's. However the ECG will give you much more detailed information.

George

Re: Medisana
Author: Bob K. (---.anhmca.adelphia.net)
Date: 01-15-06 17:56

Susan,

You wrote, "I was wondering why FDA won't allow Medisana's Cardiocheck to be shipped to the US...so I just did a google and found the following link, don't know the accuracy of her comments."

Here is one of the comments you were referring to,

"The Medisana Cardiocheck was pulled from the shelves in the US because the FDA said it provided too much information for the average consumer."

It looks like we can buy an EKG machine from the following American website which would provide even more info than the Medisana for the average consumer which seems to contradict the above comment,

http://www.cardiologyshop.com/hewpacekgmac.html

Thus I think you were right to be wary of the accuracy of the comment.

Bob

Re: Medisana
Author: Susan (---.socal.res.rr.com)
Date: 01-15-06 20:23

Thanks for sharing that site! ...but I find their products too expensive for an average patient to spend...and maybe that is the problem..

Perhaps Medisana's EKG was a FDA worry because it was so cheap that anyone can buy one without having the proper education to evaluate the results. Since the unit is programmed to flash if the normal range numbers are off and the word "arrhythmia" flashes if one is not in NSR, perhaps the FDA worried that patients would use it for self diagnosis without followups with their physician. Who knows? All that I do know is that they were taken off the shelves and no

longer available for purchase in the US.

One sold on ebay this week for only $70. Although it doesn't have a printer, I am able to see the numbers flashing for 10 seconds [especially QRS and pulse] so for me it gives me some peace of mind.

http://www.afibbers.net/forum/read.php?f=4&i=10476&t=10463#reply_10476

Wil, PC: EKG monitor/holter info before buying
Author: Susan (---.socal.res.rr.com)
Date: 06-08-06 10:59

I am considering purchasing an ECG monitor so I can have the printed strip to show my cardiologist when I get my recurring episodes that are not AF but some sort of SVT, atrial flutters or ?

[1] Can anyone view the following site and tell me if they believe this unit would be accurate enough for a physician to view a printout of the strip and make a diagnosis if whatever I am having is cardiac related?

http://www.healthfrontier.com/Products/product_detail.cfm?productid=1

additional questions: [thanks in advance]
they offer lead 1, right and left thumb
or lead 2, right thumb and electrode left leg.

[2] Would there be a visual difference in the strip between lead 1 or 2?
[3] which lead [1 or 2] would be more diagnosic for a physician to read?
[4] after looking at the demo ECG strip, can anyone tell if it is a lead 1 or 2 ECG reading?

Thanks in advance. I have the Medisana Cardiocheck unit, very similar as the ECG@home but it doesn't show a visual reading nor does it print...it only flashes when there is any sort of arrhythmia. My cardiologist says this unit is useless because without a strip, there is no way of knowing if indeed there is an arrhythmia and what type of arrhythmia....thus my looking for a cheap ECG.

Example: yesterday I received BRAND NEW on ebay freeze framer for less than 30 bucks with shipping. I was excited and put it to use, had my finger in the sensor and closed my eyes and listed to music while my arm was still. 4 minutes later I had a severe dizziness feeling and opened my eyes and noticed my pulse was jumping from 56s to 123 and back down to 32 and up to 90...beat by beat. I had my Cardiocheck on my computer table and took three readings...the first showed "arrhythmia"...the third after 40 seconds was normal. When normal I resumed freeze framer and it also showed a slow steady 56 pulse.

I don't know what was happening. My finger was relaxed on my lap and still. If I had a proper ECG reading I could show a physician "proof".

Any recommendations for reliable low cost ECG or EKG monitors? I am told two people on this board, PC and Wil own a holter. What are the brands, cost? and can you print up a strip?

thanks

Re: Wil, PC: EKG monitor/holter info before buying
Author: PC (---.hawaii.res.rr.com)
Date: 06-08-06 12:14

Hi Susan,

That's an interesting device.

Personally for less than that amount of money I like the Polar S810(i) HR monitor. It can do much of what the ecg@home can do - record and differentiate PACs from PVCs, record arrhythmias, etc., and for as long as 8-10 hours. It also gives you HRV. The ecg@home looks like it might provide a more acceptable recording, at least for your physician. The PACs and PVCs will look more familiar, but you only get 10 seconds of recording. So, if you're not sure of what you're experiencing and it happens more than once, you're out of luck. Furthermore, your MD won't enjoy false alarms. It's not clear to me that you can read your own sampling or not, although you probably can.

Perhaps Wil can add a few comments.

PC

Re: Wil, PC: EKG monitor/holter info before buying
Author: Susan (---.socal.res.rr.com)
Date: 06-08-06 13:10

thanks PC,
what's the difference between 1 and 2 lead? Is it worth buying the optional lead 2 electrode? which will be more acceptable by a physician in diagnosing what I have? I don't plan on reading my own sampling...just want it at hand when I see my doctor and complain of skip beats and dizziness.

Re: Wil, PC: EKG monitor/holter info before buying
Author: Wil Schuemann (209.216.169.---)
Date: 06-08-06 14:38

PC is warning you that ten seconds of data is only ten beats. This means that even in the middle of an episode, the ectopics, or whatever, may not be recorded unless the misbehavior occurs during the ten seconds. As I always remind myself, nature is perverse. It will be almost guaranteed that the ten beats recorded will be perfectly normal beats. Worse, for some reason the electric toaster or a defective electrode will cause a defective waveform to be recorded.

You probably will not be able to see the actual data you collect. The data will instead be sent to a central processing center where it will be forwarded to your physician, probably electronically. There is no guarantee that your physician will easily be able to see the waveform or produce a printed copy of the waveform without him obtaining special software or hardware.

Your physician will be looking at a form of data he will not immediately recognize. Worse, he may be looking at nothing out of the ordinary, depending on whether the device recorded what you wanted it to record. You will be as likely to irritate the physician as to educate him about your heart's behavior.

It would be best to have a device which gives you an immediate visual presentation of the recorded data, and for a longer period than ten seconds. You would, of course, have to educate yourself to interpret the printed waveforms, and then you could take data to your physician which is truly meaningful.

Getting into recording and interpreting heart waveforms is a giant leap, but one which pays big dividends in knowledge and peace of mind.

Re: Wil, PC: EKG monitor/holter info before buying
Author: Marian from Miami (---.mia.bellsouth.net)
Date: 06-08-06 14:54

Susan,
Take a look at this monitor at http://www.activecenter.com/

I have had one for 3 years and it has been invaluable in documenting the various rhythms my heart has presented. It is very portable, in fact it fits right into my pocketbook. It's possible to attach the three electrodes within minutes.

I bought a Palm Pilot on Ebay to go with it. You simply plug it into your Palm Pilot to view and record Lead II or Lead I. Then Hot Synch it to your computer. The print outs are "beautiful" if you can call Afib beautiful, or at least the ones for sinus rhythm are! The strips can be taken or faxed to your EP. When you buy the monitor, you also get the software to load into your computer and Palm. Because I had these strips to document my rhythms, I was able to schedule my PVI last year much sooner than otherwise anticipated.

The machine records rhythms for 30 seconds at a time, and you can record 20 strips per patient before downloading them to your computer.

Marian

Re: Wil, PC: EKG monitor/holter info before buying
Author: Susan (---.socal.res.rr.com)
Date: 06-08-06 16:56

Thanks Marian and Wil,

Active sounds great...the cost is high $699 plus a Palm but I think I may buy it for peace of mind. I need to get to the root of what is wrong.

Actually ECK@home strip readings can be printed off your PC..there is an option to have it sent to a physician but that is only an option. The unit comes with a PC cable and software for $329. I called the company and was told the monitor only has a 10 second memory...but perhaps hooked up to the PC, the memory will be longer. I will call back tomorrow.

One last question: what is the difference between lead 1 or 2? Does it display the strip any differently? Is one better for a physician to diagnose?

thank you all in advance
susan

Re: Wil, PC: EKG monitor/holter info before buying
Author: PC (---.hawaii.res.rr.com)
Date: 06-08-06 18:06

Sometimes when evaluating what appears to be an abnormal beat, the possibility of artifact poses a problem. The contact for the electrodes in one lead may be temporarily lost, e.g., some physical activity or movement may do this. In this case two leads help eliminate this dilemma by providing another recording of the same beat. If that very same beat is also abnormal and the beats before and after are not, then it's probably real.

Although detection and identification of ectopics may require more than one lead, reliable detection of AF should only require one. But it may be flutter or tachycardia and ten seconds may not be sufficient to differentiate.

All of Wil's comments are can certainly apply.

PC

Another Alternative
Author: J. Pisano (---.zoominternet.net)
Date: 06-08-06 21:28

You can also look into auscultation devices that provide you with a phonocardiogram.

I use the one from stethographics. It has been an invaluable tool for keeping track of my heart. In addition, you can use it for lung sounds as well. The software is very good at determining things like wheezes, rhonchi, squawks, and fine and course crackles. My son has Asthma and I use it also to keep track of him... You can download there demo at www.stethographics.com It will actually dump some of the heart and lung sounds onto your computer, so you can listen to them regardless of whether or not you have the software, I believe you can read the help files as well, which have sounds embedded into them...

It saves data as a standard wave file and you can send these via email or whatever.

If you are not familiar with auscultation of the heart, I would suggest that you take the time to realize the benefits of listening to your heart, regardless of the phoncardiogram software. Once you familiarize yourself with what you are looking for you can hear many things. The primary S1 and S2 sounds and even distinguish S3 and S4 sound if they are present. You can hear both systolic murmurs and diastolic murmurs, tricuspid regurgitation or mitral regurgitation, pulmonic stenosis, atrial septal defect and a whole host of other things. It actually is quite astonishing what can be heard. Many of the people here would have a stethoscope I would think, especially if you are keeping track of your blood pressure. If not, they are really inexpensive.

Oh, and once you hear your own afib, you will soon not forget it's sound...

The stethographics package includes the auscultation software, the stethoscope and also an invaluable multimedia CD ROM of how to actually listen for the above things and all kinds of audio examples of what you are listening for...

Not for everybody, but it certainly is overlooked quite often. If you don't want to spend the money for the whole kit, you can order the multimedia CD-ROM. It alone will help you know what to listen for...

There are a number of other manufacturers... you can check them out for yourself, Google auscultation software...

Joe

Re: Wil, PC: EKG monitor/holter info before buying
Author: RobertJ (60.50.252.---)
Date: 06-09-06 06:28

Hi
I was about to do a post seeking info on home monitoring devices. I have been diagnosed with AF for 1 year. Dilatrend was OK for 6 months then I was changed to Sotalol. Now I am back in AF. My cardiologist is saying the next step is Amiodarone and if the fails then ablation. I am not real impressed especially after reading the various opinions on the web.

I have now subscribed to the AF Report and bought the first book online. I feel my cardiologist (and myself) should be looking at various triggers rather than a dependency on medication - especially if there are nasty side effects. I have been working long hours (in front of a computer) and starting to feel hungry at night - hypogythermia I think. So I want do conduct some monitoring to determine what triggers maybe affecting me.

From browsing the web, I found the site:
www.alivetec.com

Anybody had any experience of this product?
Regards
Rob

Re: Wil, PC: EKG monitor/holter info before buying
Author: George N (---.hlrn.qwest.net)
Date: 06-09-06 07:15

Rob,

It looks interesting.

George

Re: Wil, PC: EKG monitor/holter info before buying
Author: Marian from Miami (---.mia.bellsouth.net)
Date: 06-09-06 08:11

Susan,
Lead II is commonly used for monitoring rhythms, especially on small 3-lead units.

See: http://www.nda.ox.ac.uk/wfsa/html/u11/u1105_01.htm

Lead II isn't necessarily the best lead, but the P waves, if the heart is producing them, are quite visible on it. The Active ECG system comes with a demo which demonstrates the differences in the various rhythms, including atrial fib and atrial flutter. In order to do a rhythm strip with more than 3 available leads, you would need a full 12 lead EKG machine.

Marian

Re: Wil, PC: EKG monitor/holter info before buying
Author: Susan (---.socal.res.rr.com)
Date: 06-09-06 10:08

Thanks Marian,
I called up Active ECG to ask about their products and spoke to a great person [firefighter] who explain the difference. Lead one [shoulder to shoulder view of heart across top], reduces wave height [I believe] while the Lead two will pick up better arrhythmias since it shows a diagonal view of the heart and is better to detect AF.

Also Active ECG is releasing a blue tooth connection add-on to the Palm in two weeks free to prior purchasers of their monitor [limited time]. You may want to call and get your free connection. This way your palm doesn't have to be connected to your hardware...eliminating the wiring and reducing artifact [According to Jeff at Active]..or if in the future you want to upgrade your Palm.

Re: Wil, PC: EKG monitor/holter info before buying
Author: Marian from Miami (---.mia.bellsouth.net)
Date: 06-09-06 12:03

Susan,
The bluetooth connection sound great. Thanks for the info.
Marian

Re: Another Alternative
Author: PC (---.hawaii.res.rr.com)
Date: 06-09-06 12:15

Thanks Joe. I had no idea such products even exist.

PC

Re: Another Alternative
Author: J. Pisano (---.zoominternet.net)
Date: 06-09-06 16:53

PC,

I think you'll find that by looking at the sinewaves you will be able to find out all kind of things... Let me know if you get one.

Joe

Re: Another Alternative
Author: PC (---.hawaii.res.rr.com)
Date: 06-09-06 20:45

Joe,

I was looking at their Heart Murmur software with the thought of mitral regurgitation. It might be pretty easy to evaluate for that murmur and then look at PACs in that subpopulation.

It looks like it might work with a regular old acoustic stethoscope.

PC

Re: Another Alternative
Author: J. Pisano (---.zoominternet.net)
Date: 06-09-06 21:28

PC,

I was actually considering making my own microphone stethoscope when I came across the literature for those who actually make it (another multi-million dollar idea I was too late for!). It would be easy to do. You could use any stethoscope and just about any microphone with a small capsule on it. Radio Shack sells a few for under $20.00 that would probably work. You would simply cut the stethoscope before it "Ys" and insert the microphone into the tube. I am sure it would pick up the heart sounds quite well. Maybe I'll try it and report if anyone is interested...

Audacity is a freeware audio editing program you could use to record heart/lung sounds. It actually is quite capable. I use it in my technology class at the college.

I haven't had the chance to actually hear a murmur "live". But the software simulations are easy enough to surmise. I am sure I would be able to pinpoint one quickly if I actually came across one. Any ectopic beat is easily seen and heard...

The stethographics software has excellent lung diagnostic capabilities but the heart diagnostic capabilities are limited to HR and S1, S2 notations. The rest is up to you to listen for... Of course when you magnify the sound and perform low pass filtering plus looping for the heart sounds it is much clearer to be able to determine what is happening. All of which you can do with Audacity....

I have three heart monitors. Medisana's CardioCheck, ActiveECG [www.activecenter] and most recently AfibAlert [www.afibalert].

1. Medisana's CardoCheck. I first got this monitor on Ebay since it is a German monitor and FDA laws forbid both US and Canadian Medisana branches to sell to the US. It did work to tell if I was in any arrythmias but it couldn't tell the difference between AF and PACs....so there was many false readings. The only pro was the price -$250-$289 and that it gave a QRS reading that was accurate compared to an EKG done at the same time at Cedars. I found taking the QRS reading was helpful since I am taking Flecainide. The cons included not being able to connect to the PC, no printing capabilities, no visual live EKG...just an icon of a heartbeat. One can only save the data info of pulse and QRS from memory. It also needed a special liquid to be placed on the electrode thumb area...which wasn't available for purchase in the US. Email me if you need the liquid. I got the formula from the manufacturer.

With this monitor a flashing "*" would show if I was in AF. It was a limited benefit in the beginning but was a hassle at the ERs when I needed some sort of proof I was in NSR the prior 48 hours when I wanted to convince the doctors to cardioconvert. Frankly this monitor with flashing "*" didn't give the physicians enough confidence that it actually worked. Another con was the fact the only way to purchase this device was on Ebay from German sellers. Three of us on this BB tried to purchase from the same seller [I was getting a second one as a backup]. He didn't send the other two ladies their monitor and they lost their money.

2. ActiveECG. Marian suggested this monitor and I saved up to purchase it as my next device. It is a three lead monitor that requires a Palm PDA to function. The cost is $699...pretty expensive if you have to purchase a PDA to work it. There are only limited Palm PDAs that are compatible with ActiveECG's software. They are still on software version 1.15 and don't seem to be interesting upgrading to newer phones at this time.

The first PDA I purchased was a used Palm 500 off of Ebay. The screen on the PDA was dark and the sync didn't work....total waste of money. I then purchased a $200 used Treo 650 for this heart monitor. It is not as portable as I would prefer. The ActiveECG hardware wasn't revised to work with the bluetooth capable phones--unless you use a cable from phone to monitor... so the company includes a bluetooth adapter with their monitor. The problem I found was that the adapter had to be screwed into this thin plastic monitor and it always was a hassle connecting my phone's software to accept the bluetooth connection.

pros: You have on your phone a live feed of your EKG--no need to download to a computer...unless you want to.

cons: [1] too much tremors and artifact, needs a fresh electrode for each reading. [2] I live in a hot desert area and new electrodes were drying up in the packaging. To take a reading I would have to experiment with electrodes and frankly this took up too much time. [3]Bulky-it wasn't practical to keep in my purse because I needed the monitor, PDA, electrodes and blue tooth adapter. [4] investment: this monitor requires specific Palm PDAs to use. The company is not upgrading their hardware to work with modern PDAs...to use it, one must find a phone from ebay or other sources. This may be OK for now, but what chance will you have in 10-20 years to find an older phone around? [5]MOST IMPORTANT was poor customer service. I dropped my PDA twice on the street and saw the pieces fly apart. This got me concerned about my investment on finding a replacement Treo 650 PDA since Verizon discontinued this model. I called and emailed ActiveECG and asked if they have any plans on updating their software or hardware so future phones will be compatible? Their reply was to find older phones on ebay. I felt this was not a good investment nor good customer service if they didn't care what happens after their sale enough to invest time and money to keep their product up to date in the changing world of cellphones. If you decide on this monitor may I suggest you purchase a few backup PDAs while they are still available on ebay....

3. AfibAlert. I love it. It is perfect for my needs and the customer service is excellent. There are two ways to take a reading. One is using two thumbs [no liquid] or using one of their wrist electrode bracelet. They offer the metal watch band type or a comfortable stretch material with metal threads which actually works well. The reading takes 45-50 seconds. During this time I see my pulse flashing. At the end of the reading either a green check light if you are in NSR or a red icon if you are in AF. This monitor's only purpose is to detect AF. The company includes a cable to my computer where I go to their website and upload the EKG strip. There is no charge for this and I am able to archive all of my readings. You would sign in with a username and password. You can give your physician access to this info if necessary. The company is having a sale now and the price is $499.

pros: the readings are pretty much artifact free...crisp clean readings which I can print up or save to a PDF file. I would be more than happy to send anyone a sample of a reading. Hospital ERs seem to accept the readings as proof if I have been in NSR the prior 48 hours. My cardiologist took me off of blood thinners because I take a reading either daily or every 48 hours and he is confident that I am in NSR and don't need the extra thinners. This monitor is small enough to keep in my coat pocket or purse. It comes in its own hard plastic case...which I think is a nice touch. It doesn't require liquids or fresh electrodes which is perfect for my needs. When I need to take a reading I am not wasting time searching for these things. Mainly the customer service is the best feature. They are wonderful. I've emailed them or called them numerous times with questions about my readings. Once my monitor didn't work and they sent me a free unit with free shipping which I received the next day. They stand behind their product and work well with their customers. An example was once I was visiting someone in the hospital and wanted to use the hospital's computer. Because there was a firewall and I couldn't upload from the hospital's computers, I emailed AfibAlert and they assigned me a "AFibAlert Client" method of uploading my files. In addition they emailed me asking if this method was working. They followed up. They also had the third party software developer call me and ask as well. You can't ask for better customer service. They are the best.

cons: I am thinking hard to find any. I suppose only saving to memory on the device approx. 8 or so readings [don't know the exact amount] before needing to upload would be considered a con to some but for me it isn't a problem because I upload and print up a new strip every two days to keep in my wallet...just in case.

To sum it up, I really like AfibAlert. I have had no problems with airport security using this monitor. I take it everywhere with me. It is worth the peace of mind of knowing that at any time I can take a reading and reduce whatever concern or stress if I am in AF or NSR.

Susan

Hi Susan, if you don't mind, I'd like to add to the cons side for AFibAlert ...

It's reliant on the user stopping what they're doing to take a reading.
The tricky one of course is if the user is asleep, although I suspect anyone how has gone into AF or had ectopics from bending over or splashing there face with cold water may also have an interesting time.
One of the most useful bits of information I've got from my Polar watch is what my heart was doing immediately before going into AF, obviously this is often quite a hard time to predict so it's an area where continuous monitoring is a great advantage. (and is not something AFibAlert is designed for)

If I ever wanted to take more detailed recordings than R-R interval my watch provides I suspect I'd skip the AFibAlert type devices and look at holter monitors.

The other con for me would be $499 would be a lot to spend on something that a finger against my wrist or neck has always been able to confirm (usually along with a squirrel running around in my chest). I appreciate some people's AF is harder to detect and asymptomatic AFers might find it worth while.

--
James D

James,
In addition to peace of mind, I need an event monitor for proof if I go into AF and can't convince any ER doctor to cardioconvert. I think that is my major anxiety about AF....it is the arguing and stress trying to convince a physician to convert. IMHO it's my choice if I want the opportunity to get back into NSR, at the end of the day it would be me living with AF, not the physicians. I have had some experiences with physicians at the ER who has lectured me [5 separate times] that "there is nothing wrong with living a life of AF" because they don't want the hospital liability to cardioconvert me with stroke risks if I was wrong and went past the typical 48 hour mark. For them it is better to have something written [printed ECG] to protect themselves....otherwise I would have to sign a hospital responsibility release before they would convert me, but this was after I won the argument....and this happened at 3 different ERs. Mt. Sinai hospital in NY is a fine example. Their policy is not to convert and leave it to a cardiologist.

As for pulse reading, not all of us are calm enough during a reading if our pulse is high to know for sure how to diagnose ourselves. You are lucky your cardiologist or ER physician has taken you seriously with a pulse reading to allow self diagnosis. I also take pulse readings a few times a day and then take an AfibAlert reading for that needed hospital proof...and also the peace of mind of double checking to make sure I am truly in NSR.

Regarding 24/7 monitors [for silent AF, STVs or PACs, etc] I like CardioNet service. I had used their services for 3 weeks last year to rule out any Vent. Fib problems while using Flecainide. It is a great holter. It is designed with a cell transmission attached to your phone line. If you leave the 50 foot area, the local land phone transmission to CardioNet's monitoring company switches over to a cell phone transmission so you are protected 24/7. The company monitors your readings instantly and if there is a problem [i.e. SVTs or AF] they will fax over quite quickly a fax of your EKG strip to your physican who ordered the monitor. Otherwise they take random strips and fax daily to your physician. The patient has the option of also using it as an event monitor [you punch in type of symptoms] if the patient feel heart racing, dizziness or other symptoms. Then it is instantly transmitted to CardioNet and sent over along with the daily strips to your doctor.

The one con with CardioNet service is the darn beeping sound. If you are sleeping and turn over [back to line phone and unit] it will wake you up and beep that it isn't getting a signal...same as if you are inside a shopping center or areas without cell reception...it will just beep and beep. Other than the beeping which after 3 weeks drove me nuts, it was an excellent choice of a service product in which trained personnel monitored you from their location 24/7.

The cost of CardioNet was just too expensive. If I recall it was just under $6000....thus prompting me to get my own monitor. If you have insurance I would recommend CardioNet as a 24/7 holter. The company is outstanding. Just be aware of your co-pay...it will be higher than purchasing your own monitor which as you said, is only an event monitor and can't diagnose silent AF.

Susan

Polar S800 issue
Author: Mark Robinson (---.bb.sky.com)
Date: 01-06-08 09:11

1) if the battery is changed quickly enough when it is low, any files saved on the watch are not lost.

2) If you want to transfer all your files from one computer to another.

a) Locate the polar file on your c drive usually in program files and just copy it to disc.

b) Install original polar software disc to new pc.

c) delete the new original polar file from the c drive (again in program files) {George's comment - this step is optional & I'd do it AFTER I had the data up & running on the new computer}

d) copy your saved polar file from the old pc to exactly (obviously) the same place as the one you have deleted and everthing is sorted.

However there is a problem with VISTA. After step b above you need to download the patch from the polar web site. It then appears to work fine but when you exit the program the update is lost and the program does not work properly. You have to re-install the patch everytime you use the program. This actually isn't a massive hassle if you save the patch to your hard drive since it only takes a few seconds to upload.

The above occurs when you are logged in as a user with administrator rights. If you create a standard user account the patch it works fine everytime.

Hope the above makes sense it just took me ages to suss it out so wanted to share it to save anyone time in future

Mark

Hi Mark,

Thanks for the info. I've not made the Vista plunge yet.

After mucking around on the Polar site <www.polar.fi>, I see you can purchase Polar ProTrainer 5 for $74 US, which is supported for Vista.

From the Polar site:

Polar Precision Performance software on Microsoft Windows Vista

Polar Precision Performance software is not supported for Microsoft Windows Vista. In our tests, however, we have been able to install the software on both 32- and 64-bit Windows Vista operating systems. For an installation example, please see Related Documents.

You can try to install the software to your Windows Vista from here. If you are trying to install the software using an installation CD ROM, we recommend that it be of version 4.00.024 or later.

This link has the info on installing on Vista (including a web video of the process). It also has links to installing the IR adapters on Vista (but no mention of the serial port IR adapter).

http://support.polar.fi/PKBSupport.nsf/ALLDOCS/42256C2B001E0F6AC22572AB002C10AE?OpenDocument

George

Author: Mark Robinson (---.bb.sky.com)
Date: 01-06-08 13:48

Yes George thats the patch that I'm talking about that doesn't continue to work if you are logged in on your PC as with an administrator account.

George I don't agree with your comment on 2 c) What I am saying is not about deleting anything from your old PC but deleting the new polar folder that is empty of your personal data after that has been downloaded/copied to your new PC's hard drive. So that when you run the polar program it accesses to exactly the same personal data you had on your old PC.

Hope that makes sense

Regards

Mark

P.S. Everyone I know who uses Vista hates it. I actually really really like it

Here is some information on the Medick MHM100. It is sort of a personal holter device, sold with an online interpretation service.

http://www.medick.com/mhm100
http://www.afibbers.net/forum/read.php?f=7&i=2467&t=2467

good find George! What I like about this company is that one can try out the monitor before purchasing by renting it at one of their pharmacies.

http://www.medick.com/mhm100/where-can-i-get-a-single-test

I tried to find on their website a printed sample of the EKG but couldn't...did you find one so I can compare it to what I use for clarity and artifact?

And wow...up to a 8 hour reading! This is a benefit if one is checking for silent AF during the night. Sounds ideal...

Susan

Susan,

The question is what "ECG trace" contains - the all the ECG waveforms for 8 hours, or something less.

==========
http://www.medick.com/healthcare-professionals/service-description

Over time, however, and with the support of this website, frequent MHM 100 users will become familiar with the reports and their own ECG trace.

http://www.medick.com/healthcare-professionals/service-description

The user will receive their own personal ECG overview report which has been interpreted by a qualified consultant physician trained and experienced in reading ECGs. All ECG reports are overviewed by Quintiles, the worldâ€™s leading clinical research organisation that has the 3rd largest ECG reporting core lab in the world. For more information visit <www.quintiles.com>.

They will receive this interpretation colour coded according to a â€˜traffic light systemâ€™; hence they will receive a green/amber/red overview report based on the results that have been found.

==========

By the way, I could find nothing about this on quintiles.com.

George

I just emailed Medick a small list of questions --such as requesting a sample EKG and to have them explain the process for recording for 8 hours...plus the ability to read my own ECGs instead of using their service. I'll report the findings when they reply to my email.

Susan

---

http://wwwp.medtronic.com/Newsroom/NewsReleaseDetails.do?itemId=1197478103347&lang=en_US

Medtronic Implantable Cardiac Monitors Give Physicians Valuable Insights Into Heart Rhythms

Reveal® DX and Reveal® XT Monitor the Heart for Up to Three Years, Helping Physicians with Identifying the Cause of Unexplained Fainting and Keeping Watch on Arrhythmias

MINNEAPOLIS – Dec. 12, 2007 – Medtronic, Inc. (NYSE: MDT) today announced the U.S. Food and Drug Administration (FDA) clearance of the Reveal® DX and Reveal® XT, new Insertable Cardiac Monitors (ICMs) that offer unique diagnostic and monitoring insights to cardiologists managing their patients with syncope (fainting) or abnormal

heart rhythms, including ventricular tachyarrhythmias (VT), fast ventricular tachyarrhythmias (FVT), bradyarrhythmias and asystole. The new Reveal devices expand on the cardiac monitoring foundation Medtronic began more than 10 years ago with the Reveal® and Reveal Plus® Insertable Loop Recorders. The Reveal DX will be commercially available in the United States beginning next week; the Reveal XT will follow.

The Reveal DX continuously monitors the heart's electrical activity in order to help physicians diagnose whether or not symptoms such as fainting, dizziness and unexplained seizure-like episodes have a cardiovascular cause. Causes of syncope can be heart rhythm disturbances or abnormalities in the structure of the heart. Syncope can lead to serious injury or can be a precursor to sudden cardiac death. Approximately 1.5 million people worldwide suffer from unexplained syncope. In almost 10 percent of patients, syncope has a cardiac cause; in 50 percent, a non-cardiac cause; and in 40 percent of patients the cause of syncope is unknown[1]. It is a leading cause of emergency room visits. Syncope is difficult to diagnose as syncopal episodes are often too infrequent and unpredictable for detection with conventional monitoring techniques.

"The Reveal DX showcases Medtronic's commitment to providing answers to patients with previously unidentified arrhythmias," said Pat Mackin, president of the Cardiac Rhythm Disease Management business at Medtronic. "These patients often have their lives and activities curtailed because of unexplained fainting episodes. The Reveal monitors provide diagnostics and monitoring that can offer physicians a view into their patients' conditions even when they're not present."

Placed just under the skin of the chest area using local anesthesia during a simple outpatient procedure, the Reveal DX monitor records important cardiac rhythm data, which may help a physician to diagnose the patient so the appropriate treatment can be undertaken. The device weighs just 15 grams and is approximately the size of a memory stick; unlike a pacemaker or implantable cardioverter-defibrillator, there are no leads (tiny wires) that extend from the device into the heart's chamber(s). To store an electrocardiogram (ECG) at the time of an episode, a patient places a hand-held, pager-sized activator over the device, and presses a button. Later a physician analyzes the stored information and determines if the episode was caused by an abnormal heart rhythm.

[1]E.S. Soteriades et al. N Eng J Med. 2002; 347 (12):878-885

I would like to give my views of the Active ECG monitor before this conference room closes. The website is: http://www.activecenter.com/

I realize that Susan has been quite unhappy with hers and gives it only negative press, but my use of the monitor has been quite positive. It is not for everyone, but for the person who can interpret basic ECG readings it can be useful. It gives you an actual real-time readout of your heart's rhythm. It has three leads and can provide Lead II or Lead I readings.

The monitor requires the use of a Palm PDA. I purchased two Palm Vx units on Ebay and have had no problems with their being too dark or anything else. They have worked perfectly well. There are newer models of PDAs which are compatible with the monitor.

I have used the monitor since 2004. My EPs have been most pleased with the rhythm strips, remarking about their clarity. I have been able to document Afib, Aflutter, PACs, PVCs, and and of course normal sinus rhythm. I did not find the monitor nor the PDA too bulky to carry with me to work. It records in 30second intervals, but can provide continuous monitoring until the PDA shuts off. The rhythm strips can be downloaded to your computer, printed out, or sent to any other computer which has the software installed.

If anyone wishes further information, feel free to send me an E-mail.

Marian

THE AFIB REPORT is published 10 times a year by:
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