

Sunday
6 Nov. 77

Dear Bruce

This is a chronological recap:

1) Mallone and I are in the process of doing the following. He is hiring 3-5 students to validate the B.P. readings and to obtain 5 normal records. He is bringing in enough patients to stay in the clinical research to get a series of ten multiple recordings. He will look for the almost universal decrease of B.P. in essential hypertensives to near normal levels in sleep which I have found to date. If it is real it will be important and provide a real point of departure for a new approach to hypertensives (of this class). The great problem is to prove it is real i.e. validate the Pressurometer. This we will do by taking a manual B.P. everytime the machine does, all night long. This may upset the effect but we're working that aspect also. ~~What~~ Have no doubt Bruce this is development, machine development, pure + simple. I've spent yesterday morning + this afternoon checking out the new unit and with the first pt. who is already in. If we do find anything we will publish out of this series but we've got to do the nuts + bolts first. We're going to move fast or it won't get done.

Bruce again I say I need help, have needed help in the manual data analysis and while I will continue to do the work of an undergraduate

for a little while longer - frankly until I feel I have repaid my wrong appraisal of Applied Electrochemistry - it is not nearly as beneficial to you for me to be doing technicians work as many other things would be. Conversely setting up a useful system is just as important to success of this as the pressurimeter is. Without a data handling capacity it will remain a research toy. Conversely it can win very big. The alternative to my getting a rational data system format determined by this manual ^{in a few months} plotting, is to hit + miss along for many years - your choice for I can't fund such.

A reason for urgency is that another ^{working} 12 hr. system is in existence with - by ~~ff~~ ^{tech resources} our standards - virtually unlimited funding - I don't have the details - yet.

2) The more we used the device the more we trusted it on diastolic pressures and we saw many strange things. I have enclosed raw data + regression / identity plots of 40+ pressures taken by Wallace on several patients - all on the old recorder. I have many more points but no time to pull them. Although the data is often startling it is usually reasonable.

3) Please show this to Ray. I have frequently
cussed Ray and he deserved it ~~for not listening~~
however he ~~was~~ and his group deserve high praise
for the new machine. It looks + feels like a
winner. On diastolics on the subjects we've tried
so far it may be more accurate than a human
and the systolics look much better. The first pt. of the 10
we're running it on is a Labu 220/80 and will
be a real test. Regardless ~~they~~ of how it turns
out they have done well + deserve a well done -
However - the job isn't finished for the EKG/cal
signals crosstalk with the Pressuremeter + cost me
a Sunday afternoon in work arounds. Also the
gain positions seem totally unacceptable at this time.
It is out of the question for patient setting. I could
go on but will get this off + there will be another
Round by mid-week when we have more validation
data.

Bruce show Ray the stuff I sent you so they
can do such things as clean up the harness.
We need to move fast + accurately with this
and if these validations turn out you may be
further along than I thought. You are nowhere
without a data system - a clinically useful
system not an engineering system.
Gordon

We are making a maximum effort here but funds +
time are limited and modest ^{additional} help from you ~~at~~
at this time would speed up the process by
many months. If done properly more of these
could be sold than Hatters.

Please send me a current list of all accountable
items I have of yours for I'm trying to sort
things out before I go mad hunting items. It
now looks as if I won't be able to get it to
do more inter-materials to the Oxford unit. It is
crude but there are some things I would like to
do with it & will even consider buying it if
we could reach some price. Conversely I can ship
it & all the accessories ~~at~~ any time you want.

2) could

~~As you can see the asymptotes are only fair & for~~
As you can see the asymptotes are only fair & for
the reasons I've been over so often. The difference in
slopes is probably caused by some error in the pressure
transducer. I have loads of tapes & data & if there's anything
else you want let me know.

It feels good to finally see some results after
waiting so long. It should be one of the more
productive periods for you have something really new.
Don't trap too much on echo vectors & other reshakes.
There are too many things still untouched -

Best regards, Bill