DATE: November 7, 1997

TO: Dr. Marschall Runge

FROM: Dr. William Thornton

SUBJECT Cardiology Teaching Projects

This month again there were not enough students to offer the senior cardiology elective and this is probably an appropriate time to review my projects.

Two scheduled courses are now being given by me; an introduction to the cardiac physical exam as part of the 2nd year students' Introduction to Clinical Medicine. It consists of 2 each 2 hour sessions of 6-8 students, with ~188 student total. The second course is a continuation of the cardiovascular Physical Exam for 2 hours for ~180 Junior students in groups of 8-10.

Apropos our discussion, with Dr. Wallace I began to design a program for 'town' doctors but this was curtailed by Dr. Wallace's problem. We did conclude that the initial effort should begin with a survey of local physicians as to interest and then offer a free introduction to our teaching of the cardio-vascular physical exam using Harvey to a limited number (6-8) who indicate interest. If the miniature auscultation training aid comes on as I hope, we could also demonstrate that. Based on this initial experience we would then refine the program for CME credits, etc. Availability of the take home training aid could further enhance this or even become a separate stand alone course.

Senior Cardiology Elective - The change in senior schedule appears to have killed the previous senior cardiology elective. Based on our experience with seniors they still badly need more training in cardiology for previously most could not do an adequate exam and certainly could not relate findings to fundamental processes. Previous students also want and need more hands-on clinical experience As Dr. Jacobs points out Harvey is now underutilized. The two sets of U-med courses and apparatus are not used at all. Mike Gordon promises an up date revision and expansion of U-med courses with improved single CD video discs, "the first part of next year". This would simplify use of the 2 U-med systems. While I am willing to help any way possible it might be more appropriate for Dr. Jacobs or other clinicians to formulate a scheduled course for all seniors, to replace the elective.

I.C.M. course: With smaller classes and more time plus the phonocardiogram display, this year's course seems to be going very well. The key element still missing is some way to allow follow-up practice in auscultation and a take-home auscultatory trainer could do much to remedy that.

Junior Diagnostic course: This is satisfactory but remains overcrowded. **Any hands on work with Harvey instruction should not be attempted with more than 8 and normally limited to 6 students!**

Auscultatory Training Aid : We now know that miniature magneto-optical disc with digital data technology as produced by SONY exceeds the requirements for

recording/reproducing heart sounds and are in the process of assembling a demo unit which will also include a pulse reference time. I hope to have a preliminary demo unit by next Friday.

This technology offers considerable scope for development of improved auscultatory training programs. After we finish the development and demonstration phase, hopefully before Christmas, it should be possible to obtain "production" systems for individual student use for a cost of approximately $300 each.

Design and generation of recorded material is equally important as the technology. Mr. Francis Andries also has the experience and facilities to acquire and reproduce the records. While he has an extensive library of analog recorded tapes it would be irresponsible not to take advantage of the improved quality of this new system by making a reference library of totally digital recordings.

Such a resource of take home trainers and ability to generate a program of recording with tactile stimuli offers a number of future opportunities for the division and UTMB to establish a position in teaching auscultation, by sponsoring an advanced tactile/auscultatory training aid system and a series of records including introduction and basics, typical cases and more advanced cases to provide material for students through advanced practitioners. Several aspects of this should be published or presented.

Future: At this time the ICM/Junior courses appear to be scheduled through every class day through April 30. Junior classes are scheduled through the summer except in July. Without a senior course, conducting these two classes is a half time effort. As we discussed on joining UTMB, I placed on hold a major archival effort, a promised book M/S and work on an augmented Holter monitor system. These still need to be done and I would like to limit my time on site at UTMB to a nominal 4 hours/day i.e. revert to ½ time after the first of the year. By that time development demonstration of the auscultatory training aid should be complete. After the first of the year I would aid implementation, of its use **if** there is institutional support for it.

Our current attempts at improving physical diagnosis and especially auscultation, with a comment on potential improvements, seems reportable and as time allows I will assemble such a report for your comment. If the improved auscultatory trainer is as successful as it now promises, it would definitely be worthy of reporting. I am taking the first steps on this by further documenting its features and potential for your perusal.

My currently planned efforts are

- Continue the daily teaching of the ICM and Junior physical exam courses.
- Complete development and demonstration of the improved auscultatory trainer with an adequate description of it as soon as possible.

1. This should include objective evaluation of its effectiveness.

- Preparation of a tentative demonstration of our teaching for 'town' physicians. If time allows, preparation of a report on our efforts to improve physical diagnosis, especially auscultation.

Any comment on this would be appreciated.

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