

Amalthea Trust Kyambogo University Project

Week 7 (14th – 20th November 2011)

On Saturday night, Robert Ford arrived for the final two weeks of teaching for the current semester.

In the final two weeks, we decided to concentrate more on the practical side of things since most of the semester had been theoretical, although this was mainly due to the delay in getting the equipment from the customs officer. As usual, on the first day we introduced the students to the new engineer and explained what we were going to do over the next two weeks: defibrillators in the first week and neo-natal incubators in the second.

On Monday, we went over the theory behind how a defibrillator works. However, the power was very unreliable so it made teaching quite difficult. In fact, because of an accident at the main Ugandan power station, the whole of Uganda had power problems until I left and it was not uncommon for the university to only get power for a couple of hours each day. Although this did make teaching difficult, we were able to plan for it and make sure that we were ready when the power did come on so we could make the most of it. This also meant that the students were able to perform a variety of activities so that they weren't doing the same thing all day.

Over the next week we went over the following, making sure that each student had a chance to perform each piece individually:

- Charging and discharging the defibrillators - both the LifePak 9 and 5 models
- Calibrating the LifePak 9 models
- Taking apart the LifePak 9 models and showing all of the important sections, including:
 - What can and cannot be fixed
 - Common errors and troubleshooting
 - Calibration chip and how to replace it
- Taking apart the LifePak 5 models, showing the difference between the two and how these cannot be calibrated. The students also got the chance to fully take apart and fix these models as we brought plenty with us for this purpose.

By the end of the week, every student was able to fully dismantle and reassemble the defibrillator machines and calibrate each one individually.

On Friday, the media came to the university in order to get some news coverage of the project. This included two newspapers (*News Eye*) and one TV reporter (*NTV*). The evening before, the students divided themselves into small groups so that they could provide explanations or give demonstrations on the different types of equipment that we had covered so far. The students were quite excited about this because it gave them an opportunity to “show off” their new equipment and “boast” about being the first set of students in the country to receive this type of training.

On the day, the reporters did several recorded interviews with John, me, and about 5 of the students. They also asked the students to give demonstrations using the equipment, which included examples of calibrating it and using it to measure the blood pressure of the reporters.

The *NTV* news report was shown on the same Friday night. It was quite a short article but it did get across the following points:

- The main hospitals within the country do have a large problem with misused and non-working equipment
- This is the first course of its kind within the country
- The current students are the first set of students and we will be training up to 20 per year
- The work done by the Amalthea Trust is aimed at making the course self-sustained rather than just training 20 students for the next 3 years
- Once trained, the students will be able to make a large difference within the hospitals
- The Amalthea Trust will initially be supporting the course for the first 3 years, during which time we will be bringing engineers with expertise in different areas to the university to teach

The *NTV* report also showed two of the female students expressing their views on the course. This came out rather well in the report; however, after the report was broadcast, one of our students, who works for the Ministry of Health, was not happy with it. He particularly disagreed with the students' comments about health staff not being fully aware of how to use some of the equipment in the hospitals. We believe the comments to be true, however, and backed them. At the time of writing, I am still attempting to get hold of a recording of the report.

The two newspaper articles weren't as good as the TV report. Only one paper actually printed an article but it was very small – simply one paragraph stating that a new course had started at Kyambogo University; there was no mention of the Amalthea Trust or the visiting engineers! The second newspaper didn't print the article, stating that they were waiting for more details on our work with Mulago Hospital but even after we gave them the information they still didn't publish anything.

Week 8 (21st – 25th November 2011)

During the last week of the semester, we taught neo-natal incubators. Again, on the first day, we taught the students the theory behind how the equipment works. This didn't take that long due to the simple nature of the machine. Over the next week, the students were shown how to completely take apart the incubator that we had at the university. Unfortunately, because we only had one, it took quite a long time for all of the students to have a go. This worked quite well in the end though because it insured that each student had enough time to go through all the different parts of the equipment and fully understand the different sections, how they work, and how things can go wrong with them. Since there was also an engineer present, the students were able to get answers to all of their questions regarding the equipment. By the end of the week, every student had had a chance to take apart almost every part of the incubator and then put it back together.

Since we had some free time during this week, we decided to give the students some practical experience of equipment that they had only had theoretical lessons on due to power failure. During this time the students gained practical knowledge, including dismantling and reassembling, common fault-finding, calibrating (where appropriate). They did this for the following pieces of equipment:

- Range a blood pressure and patient monitors
- Syringe pumps
- ECG recorders and monitors