



Care of instruments and equipment: a success story

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“When a person is hungry and you give him a fish, his hunger is satisfied for that occasion. If you teach him how to catch a fish, it can take care of his hunger for the rest of his life.” This is a teaching principle that is often repeated, and one that is also very useful in the maintenance of medical equipment.

The instruments and equipment used in modern eye care have become very sophisticated and expensive. Keeping them in good working condition can become a nightmare, especially if hospitals are located in places where there is little service support from manufacturers or suppliers. These items can fail to work unexpectedly and the resultant downtime can compromise outcomes and patient safety.

An important fact about instruments and equipment is that, when manufactured by well-established firms and supplied by reliable dealers, they seldom fail, provided they are maintained as described in the user manual.

A machine is more likely to fail when it is first set up, often due to shortcomings in its installation, use, or handling. For this reason, most manufacturers usually offer a free warranty contract for the first year. Machines should be used often during that



Miss Sathya, a technician, cleans the phaco machine after the day's operations are done. INDIA

period; any malfunction, however trivial, should be brought to the attention of the supplier and rectified immediately. If this is done, the machine will usually work well for the rest of its lifespan.

It is generally believed that doctors and/or paramedical staff who use an instrument or machine will take care of it, but this cannot always be expected. The patient is the primary concern of doctors or paramedical staff. If there is a conflict, patient care will take precedence – so instrument care is bound to suffer. Also, some equipment is too complex to maintain for a person who is not technically trained.

At Aravind Eye Hospital, we took these factors into account and devised a scheme whereby a technically trained person is responsible for a sophisticated instrument or piece of equipment. This person's responsibility is to take care of it: to turn it on or off, and to go meticulously through all the stipulated steps before it is ready to be handed over for use by doctors and paramedical staff. This considerably lightens the workload of doctors – they can devote their full attention to the procedure and the patient. When a procedure is over, doctors and paramedical staff may be tired. Shutting the machine off in the sequence suggested by the manufacturer is then the responsibility of the technically trained person.

There is no need for a fully fledged biomedical engineer to do this job, as it is always possible to train a person with some engineering background on the various aspects of a particular instrument or machine. That person can in turn train others to keep equipment running in good condition. We find that graduates of our

polytechnics (technical colleges) do such jobs well.

We use such trained persons to maintain our phacoemulsification (phaco) machines, ERG machine, fundus cameras, and expensive surgical instruments used in operations. We have had great success with our LASIK machines: they are being used regularly and have functioned, without any hitch, for the last seven years, which has surprised the supplier!

It is difficult to train many people within an organisation to look after sophisticated instruments and equipment. Not all will have the competence or the aptitude required to understand the technical details. Training one or two persons with the right aptitude and making them responsible for looking after instruments and equipment will ensure better maintenance and performance in the long term.

Awareness about eye diseases among diabetic patients: a survey in South India

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Diabetes mellitus (DM) is reaching epidemic proportions in many countries, including India. Currently, there are 17.1 million diabetic patients worldwide. By 2030, this figure is projected to increase to 366 million people, 79 million of whom will be in India.



Miss Sugitha, a technician, cleans the delicate instruments used in vitreo-retinal surgery. INDIA