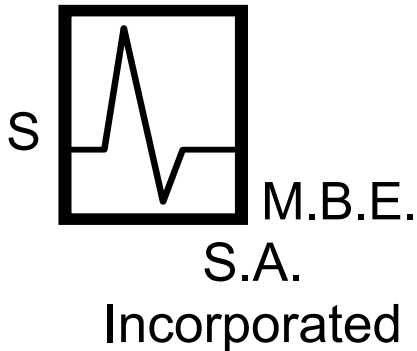


# The Society for Medical & Biological Engineering



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## Section of NEWSLETTER JANUARY 2001

### Summary of visit by Dr Joe Dyro

Dr Joe Dyro of New York was the 2000 IEAust funded eminent speaker at the EPSM 2000 conference held in Newcastle. Along with his many presentations at that event we were also fortunate to have him tour the country to share his knowledge. This tour included Adelaide where he addressed us at a technical meeting.

Dr Dyro has many credits to his name. His initial experience was in hospital based Clinical Engineering program but has also spent time as a senior ECRI staff members and holds a number of academic appointments in Biomedical Engineering and Anaesthesia. He is editor of the prestigious Journal of Clinical Engineering and is very active within professional Clinical Engineering circles within the US and internationally. He is currently a consultant and frequent expert witness.

One topic that Dr Dyro raised during his visit was that of patient safety. Many of us will immediately think, on the mention of this topic, of electrical safety and the whole issue that really gave rise to the Clinical Engineering discipline in the 60's. However there is a totally new spin to the topic emerging that is being witnessed internationally. Data is starting to emerge that is quantifying the numbers of patients that suffer adverse effects of a visit to hospital, these effects being one or more of a multitude of possibilities. They include drug reactions or incorrect administration, falls, self inflicted injuries, surgical complications, poor human interface design, electrical or other interference, infections, incorrect or lost lab or imaging studies and so the list goes on. There is a strong patient safety movement emerging within the US that is starting to keenly pursue the reasons for these problems and lobby for legislation or some other means of minimising them. That country's Institute of Medicine within the National Academy of Science recently released an extensive report on hospital incidents with claims that between 44,000 and 98,000 people die in US hospitals for these reasons. I recall that this is of the order of 2% of admissions. This could be dismissed as alarmist if it weren't for the credentials of the reporting body and the fact that there is data here within (and other countries) that supports these claims. In fact recently on my own health here in SA I flagged the fact that legislation is imminent to address the problem.

The point that Dr Dyro made very clearly is that mechanisms need to be put in place to look at the reasons behind even the most outwardly innocuous incidents. Root cause analysis is an ideal mechanism to achieve this and biomedical engineering personnel are ideally placed to play a key role in getting it happening. This goes above and beyond, but complementary to, systems already in place such as the AIMS or TGA incident reporting and analysis mechanisms. The other key aspect of any

such move is to get away from an environment that immediately attempts to apportion blame to an individual for an adverse incident. This culture inherently discourages the reporting of anything out of the ordinary.

A classic example given was the case of drug over or under infusion by way of an infusion pump. This is not an uncommon event with the immediate reaction typically being the arrangement of checking of pump calibration. More times than not this will be found to be correct and that is where the issue rests. The other factors that bear investigation in this scenario include possible incorrect selection of dose rates due to poor equipment design, user work/stress levels or environmental circumstances such as room lighting at the time. There may have been disturbances to the electrical supply, interference from mobile RF sources, problems with infusion sets, interference/adjustment of dose rates by visitors or the patient themselves. The list is almost endless.

Whilst no one would anticipate having the resources or ability to investigate every seemingly minor incident to this extent, the take home message was clearly that we should be starting to think in this manner. This is the pathway towards better and more cost effective patient outcomes. The Biomedical Engineering discipline should wave the patient safety flag once again!

***Adrian Richards***