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Technology in medicine

The development of new technology has been a boon to some and a bane to others. There is no doubt that it has benefited many patients and health care professionals, but there are always caveats, which will be noted as a recurring admonition in many of the articles in this issue. There is a considerable temptation to leave all the work of diagnosis, monitoring and sometimes even decision making to the machine. Clinicians are warned against allowing machines to take over, and specific instances are mentioned where it can be life-threatening.

This issue of *CME* looks at various areas of medicine where technology plays quite a large role. In the article on technology in cardiology, Okreglicki describes the technology in imaging for diagnosis, for therapy in treatment, e.g. defibrillation, and curative devices, e.g. in closure of septal defects. He also discusses the ethical implications of technological developments.

Raine covers respiratory technology, and expresses the opinion that a spirometer should be available in every family physician's consulting rooms. It is important, however, to make sure that any respiratory measuring equipment should conform to international standards, and be regularly and accurately calibrated.

Nephrology covers a wide range of clinical skills, but in the article by Pascoe and Halkett, the main area of discussion is dialysis. Technological aspects such as dialysis membranes and fluids, and their economic and clinical implications, are discussed. The authors deal with the questions of venous access, acute and chronic kidney failure and the choices between continuous and intermittent dialysis, all from the standpoint of technology.

The field of neurophysiology also overlaps with other clinical areas, and Lee Pan provides an overview of the two main groups of investigations and therapy, viz. electrical signal sampling and measurement, and stimulation and evoking techniques. Included in the coverage are electromyography, video-electro-encephalography and evoked potentials.

Ever since a soldier developed an external gastric fistula in 1882, the gastrointestinal tract has been the organ system for 'innovative investigation' as Bloch puts it. Firstly fibreoptics and now video-endoscopes have changed the face of gastroenterological investigation. Things have moved so far ahead in recent years that one can now investigate the entire gastrointestinal tract, including the biliary and pancreatic systems. Bloch provides a succinct overview of these technologies.

In the 'More about ... Technology in Medicine' section, brief overviews are provided by Conradie on osteoporosis and bone density measurement and Whitaker on the dermatological applications of technology.

The idea of this issue was not for every GP to go out and buy the latest in high-tech costly equipment, but rather to acquaint readers with what is available and for them to have knowledge of the advantages and disadvantages of newer developments in the non-clinical professional armamentarium.

We hope we have achieved our purpose.