

# Technology and its affect on OR nursing

By Gloria Stephens

The constant changing levels of technology has greatly affected the complexity of operating room nursing, patient care, and raises ethical and legal questions for which there appears to be few answers. Unfortunately, the consequences of making mistakes is serious.

The Federal Office of Technological Assessment (USA) states that health care technology encompasses the drugs, devices, and procedures used in health care.

The effects of all levels of technology on OR nursing must be constantly assessed and requires increased emphasis on the overall planning process. Nursing must be involved in this planning if they are to be responsible in the implementation and evaluation of equipment, supplies, and procedures. This is not a new role for OR nurses, historically they have always contributed or recommended the use of products, the need for on-going training, staffing needs, and monitored/controlled cost. True, but now it must be done more knowledgeable and with a more critical eye.

June of '91, CNA requested the National Interest Groups to complete a questionnaire regarding, 'Strategic plan on technology'. ORNAC endorses the CNA Board's position that this subject be given urgent attention as technology has profound implications for health care workers and patients. There is also a need to study technology in the context of 'caring' as in "Novice to Expert" (Benner).

## Cost and Benefits

One cannot ignore the escalating costs of technology. The initial capital cost of the new technology is very high, then there is the high cost of specialized staffing, as well as the cost of repair/replacement equipment and associated supplies, and these supplies are often single-use disposables. Disposable medical supplies are probably adding to the waste management problems associated with technology, and this

too is a subject the OR nurses are addressing.

It is neither practical nor essential that every facility in the country have a particular piece of equipment of a specific technology. However, there should be reasonable access.

Reasonable access is important from the human or patient point of view. The obvious benefits are improved diagnosis, treatment and patient outcomes. One technology that comes to mind is that of computers in nursing. Some of the benefits I see in computerized data collection are:

- increased time available for patient care due to time saved on recording
- improved outcomes due to increased time for care and teaching
- increased accuracy in monitoring with computer linked measurement capabilities
- increased consistency in data collection
- improved availability of patient information and statistical data

Technology, at times, serves only a small percentage of the population and it is questionable if this adds years to life, or if it improves the quality of life. Perhaps money could be better spent elsewhere, e.g. community health services to keep people out of hospital, and promotional efforts to improve lifestyles. There is a great deal of money spent in Canada on illness rather than health. Something to think about.

Expensive technology adds to the quality of life, such as total joint replacements and pacemakers, to mention a few, and definitely add to the budget deficit.

Nursing research is required to support and enhance nursing practice in the operating room, and this also is costly. Benefits of this must be taken into consideration as well.

The rapid changing technologies must be considered by nurse-educators as they prepare for educational needs of students and staff members. The cost of 'keeping up-to-date' is high in both money and time.

Technology in certain areas of the Health Care System has greatly affected the employment of the Registered Nurse with changes in categories of staff. This must be investigated for many reasons, such as quality of patient care, and the high cost of so many categories of employees.

Further comments on costs and benefits:

- an increase in non-invasive surgery and less invasive surgery with the use of scopes and new techniques for major surgical procedures will result in less OR time being used per procedure, and at best, the patient is discharged much earlier from the hospital. It may result in more patients having surgery and therefore a decrease in the waiting lists.
- more procedures done on outpatient basis will have an impact on inpatient care on the units due to the rapid change-over, no down time, and inpatients will be more acutely ill requiring complex care, a highly skilled nurse, and probably expensive technology.
- patients with less invasive procedures will benefit as they return to work much faster than in the past.

## Safety

The safety consideration for patient and staff is of prime importance regardless of the new technology. ORNAC has published two documents and many statements refer to the safety aspect of OR nursing: "Recommended Standards for Operating Room Nursing Practice" - 1986: "Recommended Technical Standards" - 1988. The knowledge and skills required to administer patient care, operate all the complicated high technology equipment compels operating room nurses to assume primary responsibility and accountability for maintaining competence. If the nurse does not maintain competence in every aspect of nursing care and use of equipment, obviously, there will be more potential for injury to patient, staff, and damage to this very expensive equipment.

## Social Impact

Within ORNAC's philosophical statement about Operating Room Nursing Practice it states; "Nurses are essential to the operating room as they respond to the need of society. This society is composed of individuals who are unique beings with dignity and worth. Nurses value man as a bio-psycho-social being who possesses needs basic to his existence."

Having this belief, which is necessary for the implementation and evaluation of operating room nursing practice it becomes frustrating when, with decreasing funding, decisions have to be made regarding who gets what treatment. Dollars are not unlimited, so capping often exists and will probably increase in the future. The lack of dollars has also pushed procedures to the point where decisions have to be made affecting standards of care.

The miracles of the new technology present new ethical dilemmas for health professional - to treat or not to treat. Who makes these decisions, and what will influence their decisions?

There are political implications too as election promises are rarely fulfilled and there is the potential demise of Canada's Health Care System. It appears the pressures of hospital care are moving to the community health care workers. Are they prepared for this transition with necessary resources, human and material? Another expectation is that family look after family which may not be feasible for a number of reasons, one especially being education.

Increased introduction of technology will promote the use of treatment directives and/or living wills. Nursing will have more responsibility to be knowledgeable regarding the new technologies, treatment directives and durable power of attorney. The nurse will have increased responsibility for explaining, clarifying and generally dealing with patients and families concerning these sensitive issues.

*Gloria Stephens is President of the Operating Room Nurses Association of Canada, and the Clinical Instructor, St. Paul's Hospital, Vancouver, B.C.*