Focus on Orthopaedic Nursing in New South Wales, Australia

by

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Orthopaedics and Orthopaedic Nursing are now being given a great deal of importance in Australia as the result of the high incidence of accidents caused by the rapid increase of fast moving vehicular traffic on the road and occupational hazards because of mechanisation in a vast number of fields. The estimated population of New South Wales is about three million and one in every three of this population owns a car. The impact of these accidents, if they do not kill the person outright invariably results in some major orthopaedic catastrophe. Accident units are becoming an important must in all the new hospitals being built and the older hospitals are fast establishing these units to cater for the emergencies of accidents.

The course in Orthopaedic Nursing conducted by the New South Wales College of Nursing in Sydney is both a practical and theoretical course, designed to develop a greater knowledge of the modern methods and techniques for those nurses who wish to specialise in this field. The course is for a duration of one academic year, the first two terms being devoted mainly to theoretical lectures at the College and the third term to practical work at the various hospitals both in the city and the country. At the end of the course examinations are conducted. There are two written papers, one in orthopaedics and the other in orthopaedic nursing, with an oral and practical examination on splints and plaster.

The syllabus is rather extensive and covers a wide field of subjects namely, physiology, applied anatomy, physics and chemistry, sociology, psychology, nutrition, pharmacology, public health and preventive medicine, ward administration, health nursing, medical records, and communications. All these subjects being included for the purpose of revision and widening the students' knowledge from every aspect. For the students doing orthopaedic nursing in addition to the above subjects, special stress is laid on the subjects of applied anatomy, orthopaedics and orthopaedic nursing.

During the first two terms we visited a hospital once a week to observe their operative techniques in orthopaedic surgery. For the third term a programme was drawn up for us to visit and work in various hospitals; the tenure at a hospital being from two to three weeks. The hospitals visited being orthopaedic hospitals or large general hospitals with special orthopaedic wards. We visited the following hospitals:

1. The Margaret Reid Orthopaedic Hospital for Children
2. Repatriation General Hospital
3. Royal Alexandra Hospital for Children
4. Royal North Shore Hospital
5. Prince Henry Hospital
6. Prince of Wales Hospital
7. Cooma District Hospital
8. Hornsby District Hospital

The Children’s orthopaedic wards proved of particular interest, because the main concern of the staff was to keep the children contented and happy. Television sets are provided in these wards and prove a great boon in preventing life from becoming monotonous for them especially for the long-standing cases. Outdoor treatment is a striking feature at the Margaret Reid Orthopaedic Hospital for Children. Beds are light and easily wheeled out into the open where the children spend the major part of the day, except when the weather is inclement. Education for the children is continued except for the very ill patients and teachers are especially attached to the hospitals for this purpose.

Tuberculosis of the bone is rarely seen, but conditions like Perthes, Congenital Dislocation of the Hip, Talipes Equino Varus, Osteomyelitis, Idiopathic Scoliosis, and Residual Orthopaedic Defects after Poliomyelitis are the common orthopaedic occurrences among the children. Rare cases like Osteogenesis Imperfecta, Cerebral Dysostosis and Arthrogryposis Congenita Multiplex were seen at the Children’s Hospital.

In adults, trauma to the bones with resultant fractures accounts for the majority of orthopaedic treatment and these are immobilized in the usual way. Fractures of the spine are on the increase and are mainly due to traffic accidents or high diving. In spite of the best efforts in treating these cases the resultant hemiplegia or quadriplegia is something only to be contended with by the occupational therapists, who with the many useful devices designed to help these patients, help them to some degree to accomplish the daily tasks of living, as feeding and dressing oneself. Paraplegics eventually manage fairly well and most of them drive their own cars which have hand controls. They are taught new jobs and a resettlement officer ensures that they are well-established in their new jobs. Quadriplegics present a more difficult problem and most of them spend several years in a hospital and are eventually transferred to convalescent homes.

Fractured femurs and osteoarthritic hip are the most common orthopaedic conditions seen in the elderly. The former is treated by an open reduction and an internal fixation by a pin and plate. Common varieties being used are the McLaughlin, McKee, Smith Peterson and the Jewett Nail and Plate. In patients over seventy years a replacement arthroplasty is frequently being done, as it enables very early mobilization in the elderly. For osteoarthritis conservative treatment initially, until excessive pain, deformity and stiffness are indicative of an operation to relieve these symptoms. Osteotomies, replacement arthroplasties and arthrodesis are the operations most commonly being performed.

The physiotherapy and occupational therapy departments play a very important part in the rehabilitation of the orthopaedically
handicapped patients. These departments are well-staffed with highly
qualified and well-trained physiotherapists and occupational ther-
apists.

The working of the social departments attached to the hos-
pitals deserves special mention. Cases are referred to the depart-
ments by the doctors, ward sisters and other ancillary workers such as
the physiotherapists and occupa-
tional therapists. They then sort
out the social problems and where
financial help is required they
allocate money from various funds
that are at their disposal.

Another interesting item on
our programme of visits was the visit
to the Spastic Centre of N.S.W.
Here the children are assessed
according to their physical and
mental handicaps and are accord-
ingly grouped. Education is carried
out in this centre. Teachers have
no special training, but are those
who volunteer their services and
have an aptitude and patience for
this sort of teaching, namely teach-
ing of the mentally retarded
and physically handicapped children.
Also attached to the centre are
speech therapists, educational psy-
chologists and occupational ther-
pists. Specialists in the fields of
medicine also visit the centre fre-
cently to carry tests such as
E.E.G., X-Rays, dental treatment
and any corrective surgery required.

Most of the hospitals with large
orthopaedic centres have their own
splint, artificial limb and boot-mak-
ing departments attached to the
hospital and the manufacture of
frames, splints, boots, calipers
and artificial limbs are all locally
done, according to the pattern ordered by
the surgeon.

Operative techniques employed
are very similar to those used in
India. The vi-serti drapes are cer-
tainly an improvement on the skin
towels and stockinetctes used to excise the
skin from the operation field. It is
polvvinyl type of cellophane which
comes in a large strips with a sticky
surface on one side. After the skin
preparation has been accomplished it
is applied over the site of operation.
It adheres closely to the skin thus
completely excluding it from the
field of operation.

Throughout the course, during
both the theoretical and practical
terms we were given the maximum
opportunity of seeing and learning
and without the help of each and
every member of the various staff
our training would not have proved
so beneficial.

Our course was brought to a
fitting conclusion by the very
impressive graduation ceremony at
the Prince Henry Assembly Hall, at
which the successful students were
presented with their diplomas and
certificates. As all good things
come to an end the course at the
College concluded and though it
involved a lot of hard work, it had
its compensations and I am sure
that most of the students will agree
with me, when I say that it was a
year well and happily spent. It
was indeed a wonderful opportunity
not only from the point of view of
the experience and erudition gained
in this vast field, but also for the op-
portunity it gave us to meet students
from different countries and to
learn a bit more of their culture and
social customs. And it is certainly
an excellent way to foster goodwill
and improve cultural relations be-
tween different countries.

Hyperbaric Oxygenation — (Contd. from page 321)

from the atmosphere to the mito-
chondria within each cell is funda-
mental to the preservation of life in
all mammalian organisms. Subse-
quent to the recognition that some
pathologic processes result from
hypoxia, attempts have been made
to provide the tissues with addi-
tional oxygen or decrease their
metabolic requirements.

Hyperbaric therapy is not new.
For about one hundred years pres-
sure chambers with room air have
been used sporadically in Europe.
However, the results usually did not
justify the enthusiasm of the pro-
ponents of this therapy. Within
past ten years, the combination of
breathing pure oxygen plus hyper-
baric environmental conditions has
caused a resurgence of interest in
this mode of treatment. Breathing
pure oxygen at elevated atmospheric
pressure produces a striking increase
in oxygenation. Carbon monoxide
poisoning responds dramatically to
high pressure oxygen therapy.
By providing oxygen in solution in
the blood, apart from hemoglobin,
HPO immediately offsets the hypo-
xia may also be effective in the
in treatment of barbiturate
poisoning and, perhaps cyanide
intoxication.

A group of infants with cyanotic
congenital cardiac lesions (right to
left shunt, pulmonary or tricuspid
atresia, transposition of the great
vein) who underwent open heart
surgery in HPO chambers had
significantly improved oxygenation
during surgery. The ultimate results
depended upon the adequacy of the
surgical procedure, but these infants
apparently withstood surgery better
because of HPO. In asphyxia of
the newborn, the hemoglobin is
unsaturated and the alveoli are air-
less. Hyperbaric oxygenation, at
pressures up to 4 atmospheres,
proved effective in providing oxygen
to the anoxic tissues of apnoeic
newborn infants.

In patients where massive trauma
has reduced the effective blood
supply to an extremity, HPO provi-
des distinct improvement in oxygena-
tion of the part. Even with injury to
the main artery of the limb, HPO
preserved tissue viability until
reparative surgery was performed.
In a number of patients with
chronic vascular insufficiency of the
lower extremity, HPO therapy result-
ed in subjective "improvement",
one objective evidence was manifest only
in the reduced need for sedatives.
Hypoxia reduces the sensitivity
of cells to irradiation. Because of
inadequate blood supply, many
neoplastic cells are hypoxic. Hy-
perbaric oxygenation in addition to
radiation therapy has given good
results in treatment of certain types
of malignancy, but full controlled
studies have not been performed.
A most exciting vista for HPO is in
the treatment of myocardial infarc-
tion and cerebral insufficiency. Early
use of HPO following coronary
occlusion in dogs reduces the like-
lihood of ventricular tachycardia and
fibrillation. The roster of possible
therapeutic applications of HPO
can be expanded almost without
limit.

However, to avoid repeating past
mistakes, glowing enthusiastic case
reports must be documented with
well controlled clinical studies and
careful evaluation of the therapeutic
effectiveness of HPO.

Bibliography
1. "HOSPITAL TOPICS" Aug. 1965
Vol. 63, No. 8 p. 123—Eilen L.
Davis.
2. "HYPERBARIC THERAPY"—
Therapeutic Notes. Vol. 72, No. 3,
1965. p. 72.