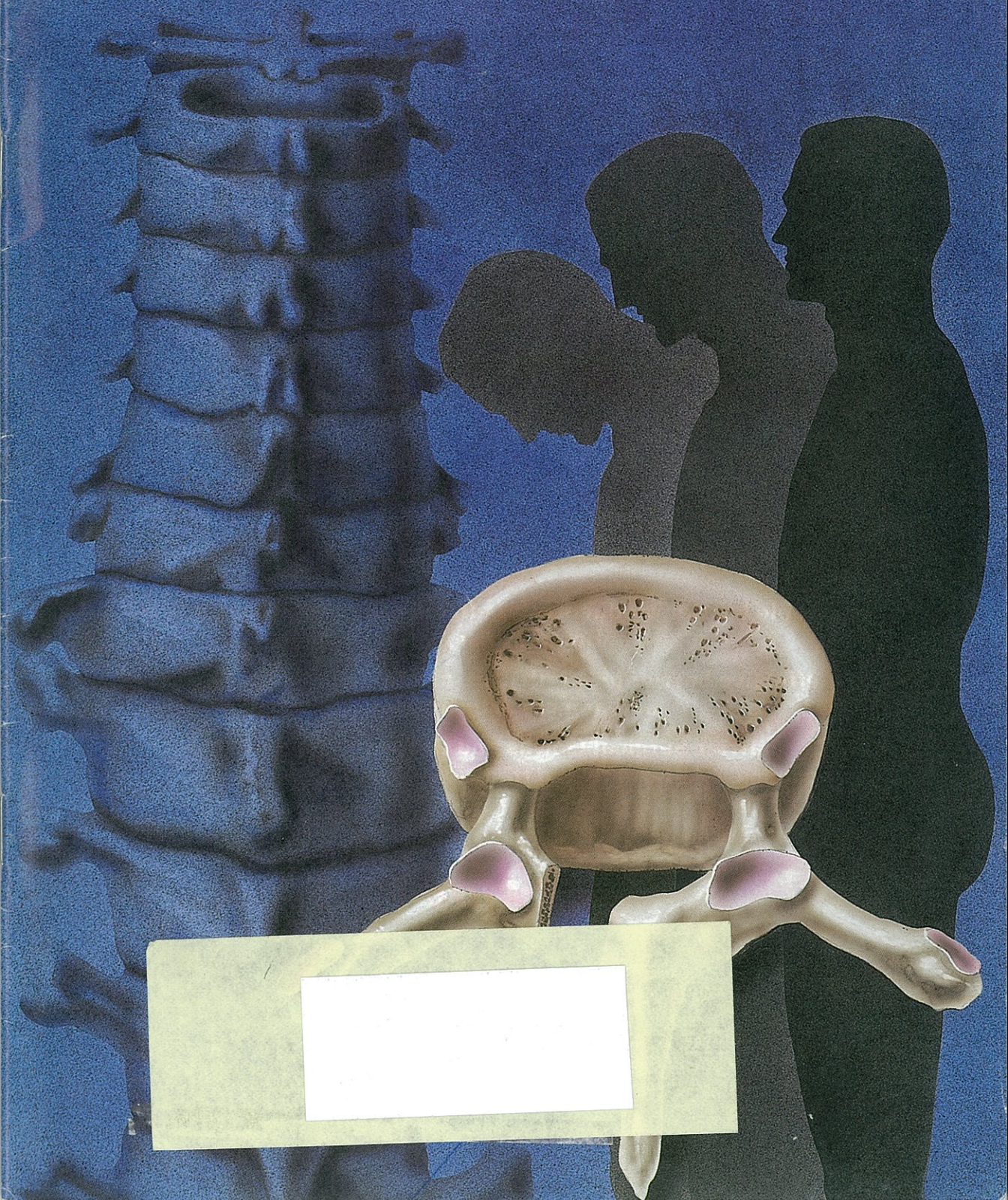
CANADIAN

Operating Room Nursing Journal

Volume 6, Number 1, February, 1988



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Osteotomy cervical spine under local anaesthesia

By Patricia Ann Fleming, R.N.

A 47 year old semi-retired truck driver with long standing ankylosing spondylitis was admitted to St. Joseph's Hospital, London for a very challenging and unusual operation. His chief complaint was a functional disability related to his inability to see ahead of him. **(Fig. #1)**

History

He really had two deformities, one in his cervical spine and one in his lumbar spine, but his predominant problems for which he was seen in hospital were for his cervical and upper thoracic kyphosis. The event which preceded his current disability occurred ten months prior when he fell backwards while descending stairs and then off a ledge approximately six feet onto his neck and shoulders. He undoubtedly sustained a fracture of his cervical spine at the time of the fall and this is a known occurrence in patients who have ankylosing spondylitis.

On admission he virtually had no movement of his neck. He could flex his lower lumbar spine so that his hands touched his knees, but no further. There was almost no extension or lateral-rotation of his lumbar spine and he presented with a "chin-on-chest" deformity of one finger breadth secondary to cervical kyphosis (hunchback). **(Fig. #2 and #3)**

This rigid deformity limited his ability to ambulate, to see the ground more than two feet in front of his feet, and eating became increasingly laborious.

Physical examination

A pre-operative physical examination by the medical staff confirmed a marked "chin-on-chest" deformity, with a 90° flexion fixed deformity, secondary to cervical kyphosis. There were no neurological abnormalities with the exception of bilateral ulnar neuropathies.

This 47 year old agreed to a cervical osteotomy to correct his cervical deformity, fully understanding

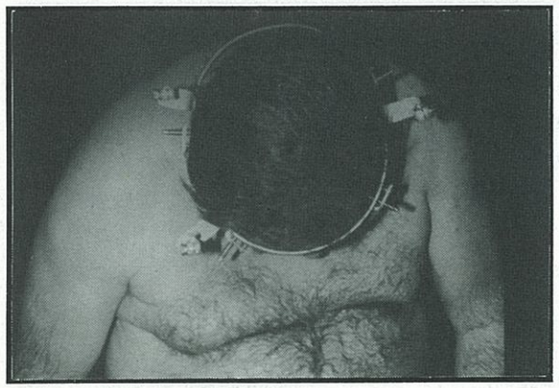


Figure #1 - Presenting with longstanding ankylosing spondylitis, the patient had a falling mishap sustaining a fracture of his cervical spine. Note the chin-on-chest deformity and the Halo ring as well as the hunching of the upper back.

About the author

Patricia Ann Fleming, R.N., has 15 years of operating room experience and is currently the Head Nurse, Operating Room, Woodstock General Hospital.

When this article was written, the author was the Clinical Instructor, OR and RR at St. Joseph's Hospital, London, Ontario. Ms. Fleming, who has completed the Nursing Unit Administration Program, is a part-time student at University of Western Ontario. She is president of the London and District OR Nurses Group.

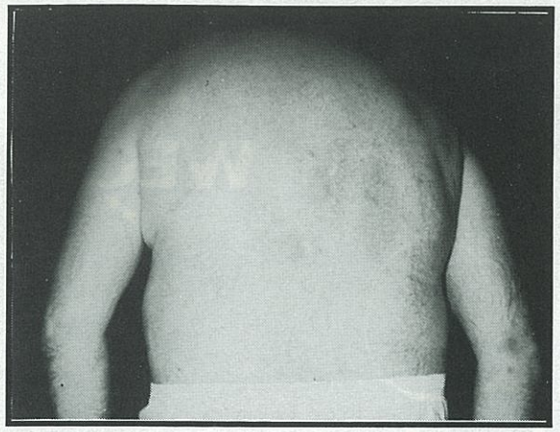


Figure #2 - Upon admission, the patient had virtually no movement of his neck. There was also no extension or lateral rotation of his lumbar spine.

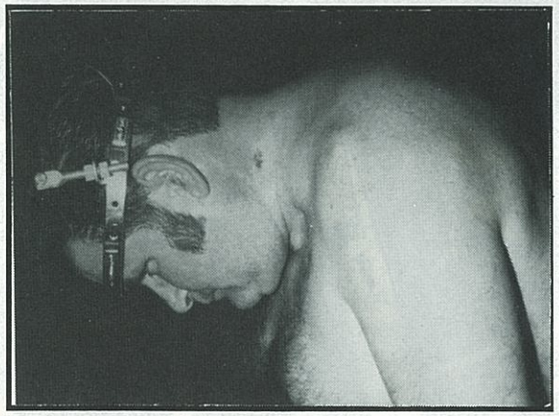


Figure #3 - This was the perspective of the patient shown with halo ring attached: unable to see more than two feet in front of his feet, with eating an extremely laborous task.

the risks which could include: death, upper motor neuropathies, both complete and incomplete quadriplegia and lower motor neuropathies consisting of nerve root problems which are real and common complications.

Application of halo ring and vest

Ten days prior to the osteotomy surgery, the patient was admitted on an out-patient basis for application of a halo ring under local anaesthesia. The vest, which required modification due to his severe flexion deformity of the cervical spine, was then applied. **(Figure #4)**

This out-patient arrangement enabled the patient

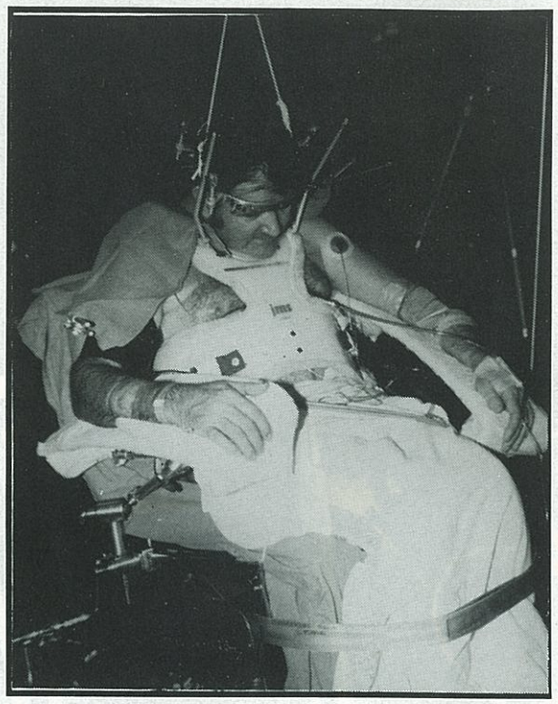


Figure #4 - The patient with halo and vest applied. In this position, in an awake state, the surgery was performed.

to become acquainted with the osteotomy surgery to come. It was also the time to familiarize the patient with the experience that would see him immobilized in the post-operative period for approximately twelve weeks.

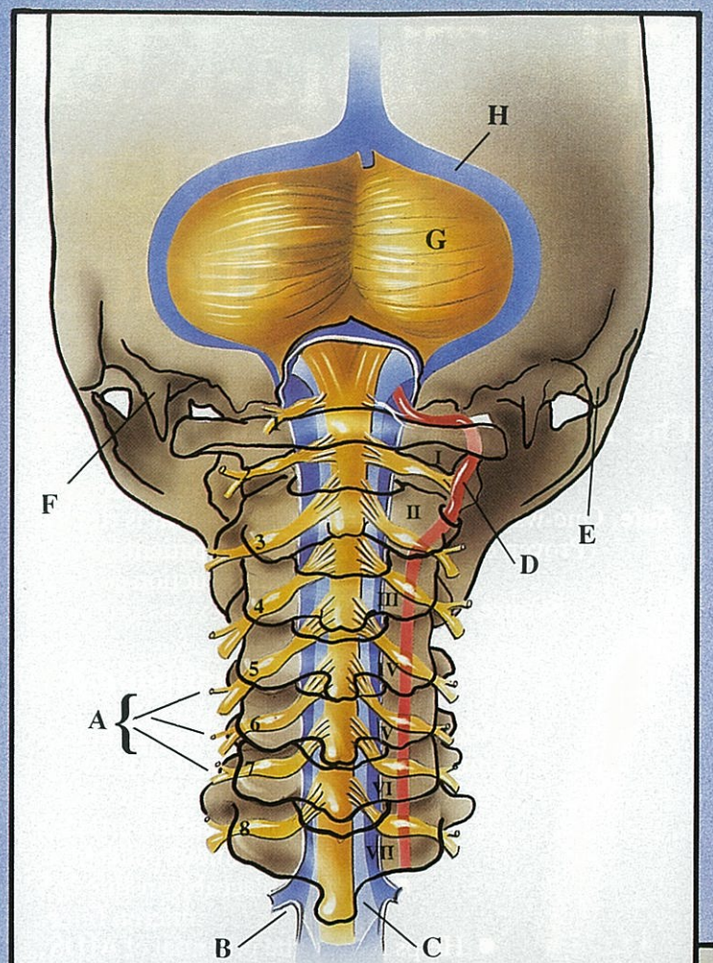
Anaesthesia concerns

The surgery was performed in an awake state. The reason for this was that when the patient's cervical spine was cracked, the surgeon wanted to be sure the patient didn't suddenly get into significant neurological problems related more to root problems than the cord problems. If there was any hint of problems the surgeon would then back off immediately. The patient, therefore needed to be awake to inform the surgeon if he felt any tingling sensations in his extremities.

As a result, the anaesthetist faced some considerable concerns. Firstly, the pain had to be dealt with by local infiltration and carefully titrated with intravenous sedation. Secondly, the sitting position caused the possibility of air embolism. If the patient was to arrest in such a position, resuscitation measures would be difficult. Finally, intubation

Anatomy of the cervical vertebrae

back view



A. 1 - 8 cervical nerves

B. Dura and arachnoid

C. Denticulate ligament

D. Vertebral artery

E. Mastoid process

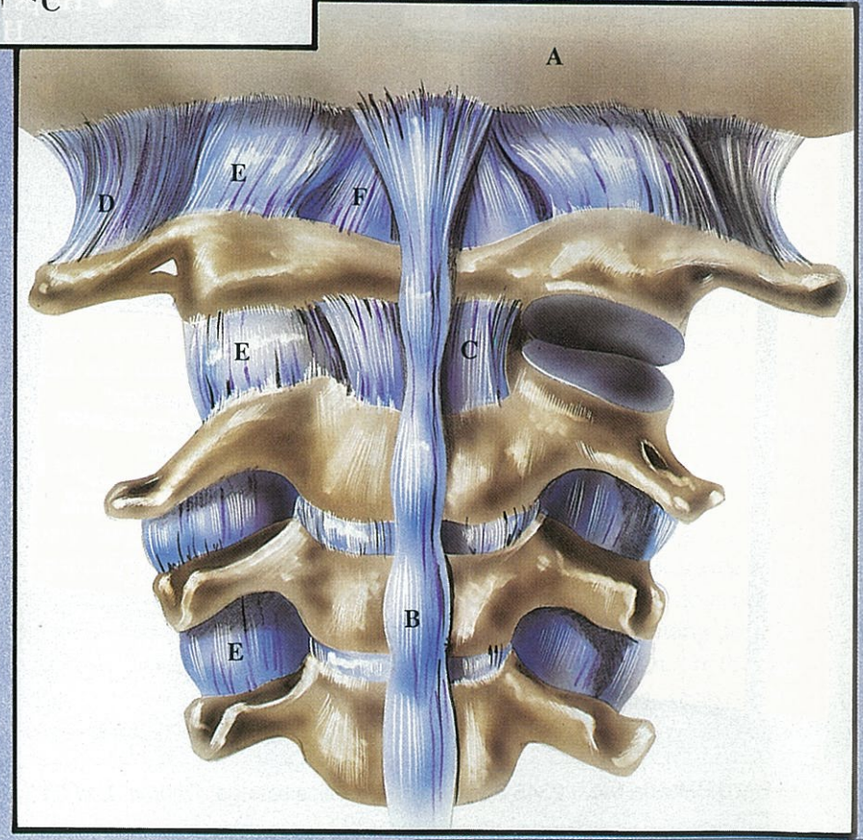
F. Styloid process

G. Cerebellum

H. Transverse sinus

Cervical vertebrae with ligaments

front view



A. Base of skull

B. Anterior longitudinal ligament

C. Atlanto - epistrophic ligament

D. Lateral atlanto - occipital ligament

E. Articular capsule

F. Anterior atlanto - occipital ligament

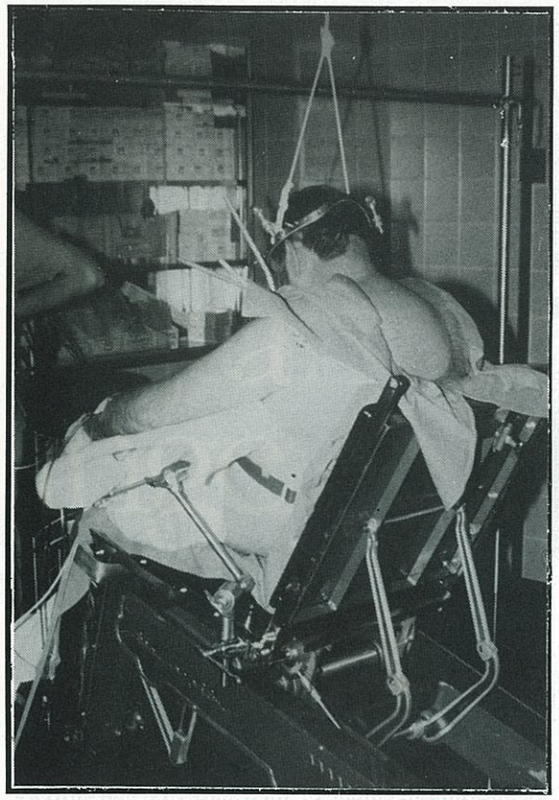


Figure #5 - From the halo, 15 pounds of traction were attached from an overhead ceiling support. Note that the hairline has been shaved and the neck prepped. The patient is in this position, under local anaesthesia, for three hours of surgery.

was not performed due to the need of maintaining the patient awake, but if required would have been difficult due to his "chin-on-chest" deformity. The patient was unable to open his mouth and extend his neck. In fact, because of the patient's deformity, a tracheostomy would virtually be impossible. The anaesthetist was faced with an uncontrolled airway.

Nursing implications

Because of the uniqueness of the operation, the patient's physical disabilities, and an uncontrolled airway with the patient in a sitting position, the onus is on the operating room nurse to be fully aware of and appreciative of the many nursing implications involved:

1. Safety

The operating table, not properly equipped to do so, was adjusted to accommodate surgery performed in a sitting position. Therefore, to maintain the patient in a secure position, restraining straps, arm rests, back support, and a foot support were required. Regular knee straps were used across the chest and across the thighs of the patient. Arm rests normally used in chest surgery were attached to the O.R. table on either side. After elbow pads were applied, the patient's arms were placed in these arm rests but not secured, to allow the anaesthetist to monitor his neurological status. The table's padded foot piece was installed at a 90° angle enabling the patient to comfortably rest. **(See Fig. #4 previous page)**

An adequately stocked cardiac arrest cart was available and staff was made aware that resuscitation measures could be difficult due to the patient's physical features.

At completion of surgery, the patient was expected to transfer himself from the O.R. table to his hospital bed. Due to the fact that he would have been in a sitting position for three hours, had received sedation, just experienced major surgery, and was wearing a halo and vest, assistance in the form of strong, supporting and weight-bearing staff would be required.

2. Comfort

Comfort becomes a concern with the patient on an operating table for three hours and unable to move with 15 pounds of traction applied to his halo by an overhead ceiling support. **(Fig. #5)** Another factor causing concern is that a clear plastic surgical drape is used in place of linen drapes resulting in exposure of patient and heat loss.

Sheepskin, pillows, and foam padding were used to prevent skin breakdown and to supply comfort. The heat in the theatre was increased and warm flannel blankets were offered in attempts to prevent hypothermia.

3. Privacy

The operation, being unique, resulted in the need to control the number of staff present. This was difficult due to the fact that St. Joseph's is a teaching centre. A specialist from John Hopkins Hospital was present, and the entire operation itself was being videotaped. Nevertheless, the patient's privacy and maintenance of adequate infection control had to be considered.

Conversations and extraneous noises were limited

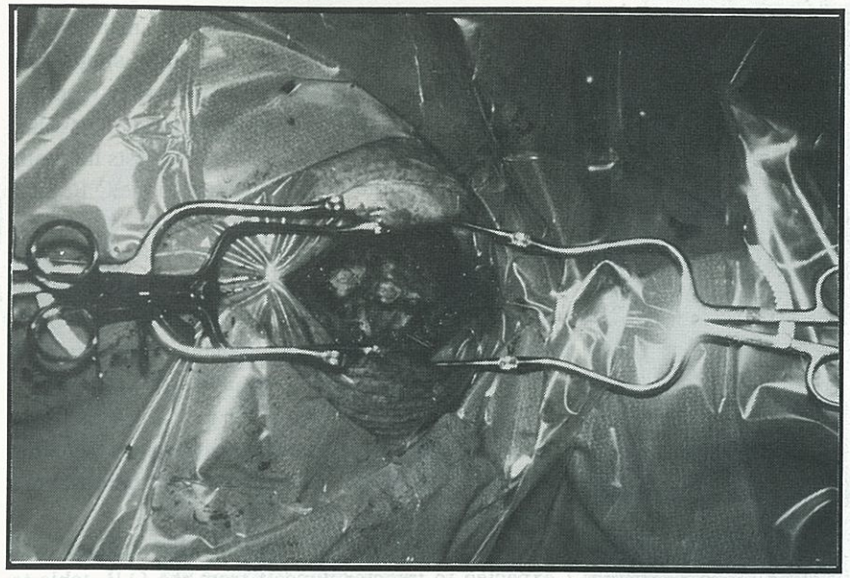


Figure #6

After the incision, retractors are used to expose the dorsal laminas of C5 to T1 for a complete laminectomy of C7 and a partial laminectomy of C6.

so the anaesthetist and the surgeon could verbally monitor the patient's condition. The patient was aware of the surgical progression and could respond to commands given by the anaesthetist such as moving toes and fingers to determine neurological status.

4. Support

Due to the possible risks and complications associated with such surgery, feelings of anxiety, fear, and apprehension would be expected. Being with the patient constantly through the surgical process and meeting his emotional and physical needs, would be expectations of the O.R. nurse.

The surgery

Following introduction of a central line, the patient voluntarily transferred himself to the O.R. table. Once secure and comfortable, the posterior hairline was shaved and the neck prepped. **(See Fig. #5 on previous page)**

Local anaesthesia of the skin and paraspinus musculature was achieved with .25% Marcaine with Adrenalin. A 15 cm midline incision was made extending from C5 to T2. For hemostasis, electrosurgeery was used. After completely exposing the dorsal laminas of C5 to T1 a complete laminectomy of C7 and a partial of C6 was performed. **(Figure #6)**

The spinal cord and dural sac were decompressed inferiorly allowing a partial superior laminectomy of T1. This laminectomy was then extended laterally generously exposing the C8 nerve roots bilaterally. The facets between C7 and T1 were removed and laminectomies of C6 and T1 were bevelled, minimizing impingement of their superior and inferior aspects on the cord.

All bone from laminectomies was saved in moist gauze and used along with fresh tibial cancellous bone as allograft bone grafting at the completion of the osteoclasis (surgical fracture of bone in order to remedy deformity).

A controlled corrective osteoclasis was performed using gentle cephalad and posterior directed pressure while the surgeon exerted counteraction on the thorax. Buckling of the cord was observed and the left C8 nerve root appeared to be compromised. The patient volunteered some tingling sensation in the ulnar distribution of the left hand. A slightly wider C8 formenotomy was then performed to prevent impingement and the corrective osteoclasis surgery was completed with no further neurological loss.

The autogenous bone graft pieces were applied over the lateral aspects of the facets and dorsal lamina providing a posterior bone graft. The wound was irrigated, a wound drainage system inserted, and the wound closed.

Post-surgical assessment

With an apparent 45° correction of the cervical osteotomy the patient could visualize the operating room and staff directly in front of him as opposed to

his proximal thigh prior to surgery. His neck appeared to be restored to its normal posture. A normal neurological examination was exhibited with the exception of a weaker grasp in the left hand.

On completion of surgery, the patient voluntarily walked to his hospital bed with assistance. He spent one night in the ICU then transferred to the orthopaedic floor.

Six-month follow-up

A successful recovery without complications followed the cervical osteotomy. The patient's cervical spine went on to a solid union but lost a little of the original correction obtained in the operating room. He is clinically maintaining a good four-finger breadth between chin and chest and is quite pleased with the outcome.

To correct his considerable thoracic round back resulting from his second deformity involving his lumbar spine, a thoraco-lumbar type osteotomy correction is being considered.

The Author thanks Dr. R. J. Hawkins and Dr. J. D. McKishnie for their assistance.

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Becton Dickinson appoints Jon Schoeler vice president of sales and marketing

Becton Dickinson Canada Inc. has announced the appointment of Jon Schoeler as the new vice president of sales and marketing for the Becton Dickinson Medical Group. He will be responsible for marketing programs and field sales in the company's Hospital/Medical and Deseret divisions.

Schoeler has extensive experience in the health care industry, in production, marketing and sales management. He is a graduate of the University of Toronto with a B.Sc. in industrial engineering.

Speakers for the Greater Toronto OR trauma seminar announced

The Operating Room Nurses Association of Greater Toronto (ORNAGT) have announced the speakers for its up-coming one day seminar on "Trauma for Operating Room Nurses."

The seminar is to be held on April 16 at the Toronto Convention Centre. The agenda of seminar speakers is as follows:

- "Certification and Specialization"

Speaker, Margaret Fitch, Ph.D., Director of Nursing Research, Professional Development, Toronto General Hospital

- "The ABCs of Trauma Management"

Speaker, Dr. Kellan, M.D., F.R.C.S.(C), F.A.C.S., Sunnybrook Medical Centre, Toronto.

- "Multiple Facial Fractures"

Speaker, Dr. Phillips, M.D., F.R.C.S., Sunnybrook Medical Centre, Toronto.

- "The Role of the OR Nurse in Organ Donations"

Speaker, Holli McLennan, RN, University Hospital, London, Ontario.

- "Technical Aspects of Organ Retrieval"

Speaker, L. Roy Beimuts (M.O.R.E.), Transplant Co-ordinator-Programmer.

"The Medico-legal Issues of Organ Retrieval"

Speaker, Dr. John Carlisle, Registrar Director of Professional Assessment for the College of Physicians and Surgeons.

Readers should note that registration is limited to 100 delegates. Look for registration forms, which will be sent to regional hospital operating rooms. Registrants outside this area are asked to call Elizabeth Jones at (416) 733-3054.

Isabelle Adams Award to be given to oustanding Canadian O.R. nurse

The Operating Room Nurses Association of Canada intends to honour outstanding Canadian nurses at each national conference.

The "Isabelle Adams Award for Excellence in Perioperative Nursing" will, for the first time, be awarded at the 1988 National O.R. Conference scheduled for the Pan Pacific Hotel in Vancouver.

Awards Committee chairman for ORNAC, Muriel Shewchuk, asked the O.R. Journal to publicize the availability of this award. Applications and award criteria can be obtained from:

Awards Chairman, #5010 Dalhousie Dr. N.W. Calgary, Alberta T3A 1B4

Canadian nurses participate in World OR Conference in Singapore

The World Conference of Operating Room Nurses concluded its 5th biennial gathering this past September in Singapore. Total registration was 1,313, with 63 Canadian O.R. nurses in attendance.

There were 36 countries represented at the conference. Australia could boast the most registrants per capita with 212. Other large contingents were from the U.S. (322), Canada (63), Great Britain (19), France (14), Italy (76), Japan (110), New Zealand (20), Netherlands (10), Philippines (16), Singapore (88), South Korea (18), Taiwan (21), Malaysia (16), Denmark (10).

The week-long gathering had over 30 major educational/clinical topics on the agenda. Canada was represented with six speakers:

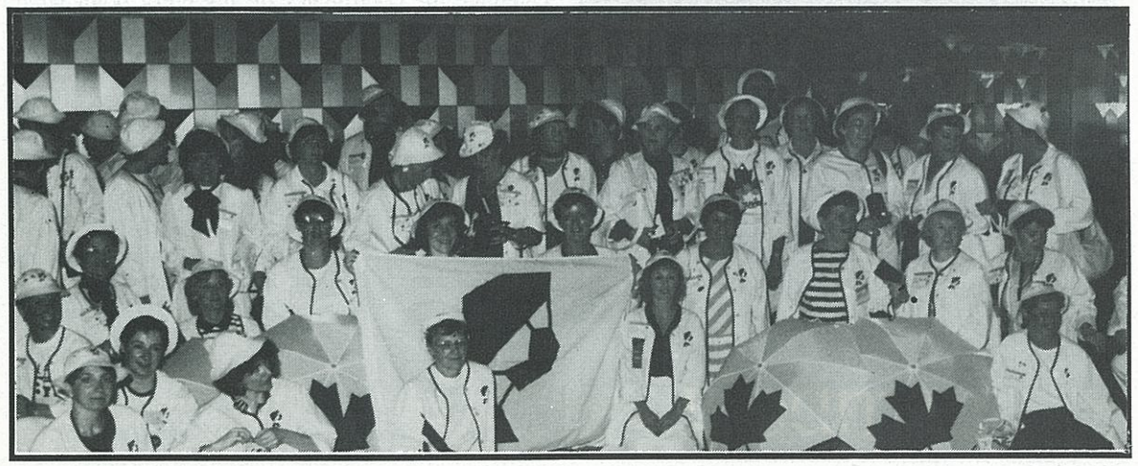
- Beverly Schmocker, Mt. Sinai Hospital, Toronto ("Laser Technology");
- Gloria Stephens, St. Paul's Hospital, Vancouver ("Management of Disaster Situations");
- Marvelle McPherson, St. Boniface General Hospital, Winnipeg ("Power: Personal and professional");
- Judy Wry, University of Alberta Hospital, Edmonton ("Time Management");
- Margo Fretz and Holli McLennan, University Hospital, London ("Transplant Surgery").

Vienna, Austria - 1989

The site for the 6th World Conference of Operating Room Nurses, to be held from August 28 to September 1, 1989, is Vienna, Austria. Details of this event will be published in the journal as they are made available. The World O.R. Conference, one of the largest specialty nursing gatherings in the world, is sponsored and organized by the Association of Operating Room Nurses, Inc., Denver, Colorado.

A pedicab provides the foreground (photo below) for this group of Canadian operating room nurses attending the 5th World O.R. Conference. The occasion was the Johnson & Johnson Hospitality Night at Raffles Hotel in Singapore.

Canadian delegates to the World O.R. Conference in Singapore assembled for this photo (below).



Computer assisted stereotactic surgery

By Linda Clarke, R.N.

Stereotactic surgery is a neurosurgical technique which enables the surgeon to precisely localize and biopsy a deep seated brain lesion, or aspirate an abscess or cyst, with minimal damage to underlying structures. At St. Boniface General Hospital in Winnipeg, Manitoba, the Brown, Roberts, Wells, CT guided stereotaxic guidance system is used.

The Brown-Robert-Wells system

The Brown-Robert-Wells system, sometimes referred to as the BRW system has five functional components:

I. Headring with accessories (sterile components)

The headring comes complete with the equipment needed to secure the headring to the patient's head. This equipment includes two sizes of pins (short and long), posts through which the pins will be inserted, a special screwdriver and velcro strap. When secured to the head, it gives the surgeon a fixed and immobile base to which he can attach the other components of the system. **(Figure 1)** This part of the procedure is done on the ward with local anaesthesia. It remains on until the surgery is completed.

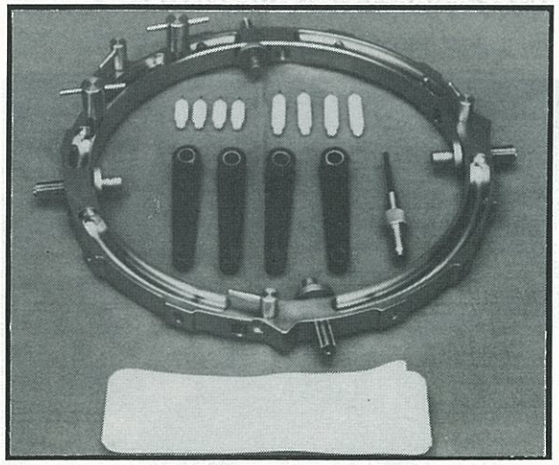


Figure 1. Headring with pins, carbon posts, screwdriver and velcro strap.

II. The localizing ring (unsterile components)

The sole purpose of the localizing ring and an important one, is to provide the artifacts or landmarks on the CT scan. The ring has six vertical and three diagonal graphite rods. **(Figure 2, next page)** The scanning intersects these rods appearing as landmarks around the head. **(Figure 3)** These landmarks enable the radiologist and surgeon to obtain the coordinates needed to determine the exact position of the target.

III. Arc guidance system (sterile component)

The arc system consists of a base ring, rotatable ring and a perpendicular arc. Contained within the base ring are three mounting balls which fix the base ring accurately to the headring. It is used to calculate the coordinates of any entry point which may be derived from the CT scan, or from the surface of the patient's scalp. The arc also guides and directs the passage of the drill and biopsy forcep during the surgery. **(Figure 4)**

About the author

Linda Clarke, R.N., a graduate of Fanshawe College, Victoria Campus, London, Ontario, is currently Assistant Head nurse - Neurosurgery and Paediatric Surgery, Operating Room, St. Boniface General Hospital, Winnipeg, Manitoba. This article on stereotactic surgery was taken from an address the author delivered at the 2nd Biennial Conference of the Manitoba Operating Room Nurses Association held in Winnipeg in 1987.

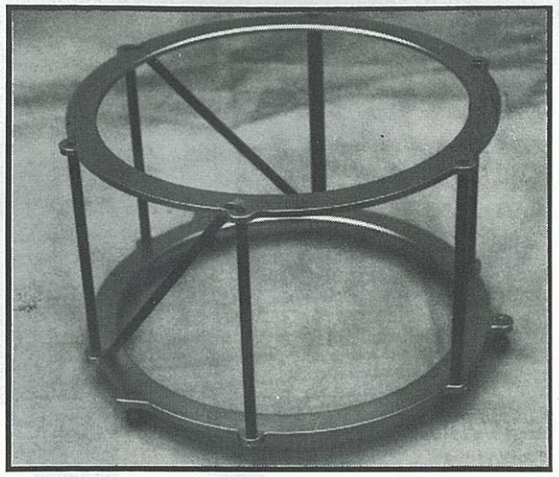


Figure 2. Localizing ring

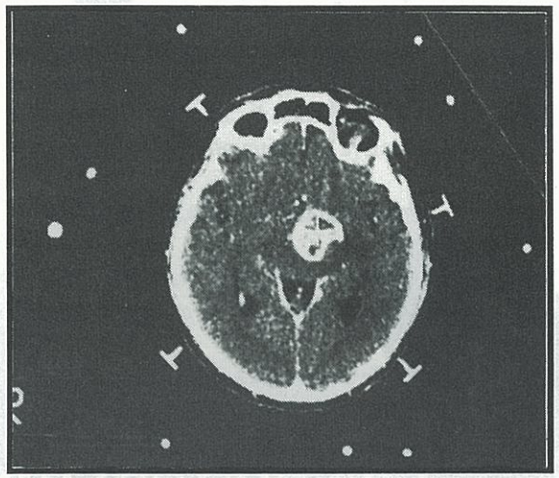


Figure 3. Artifacts on CT from localizing ring

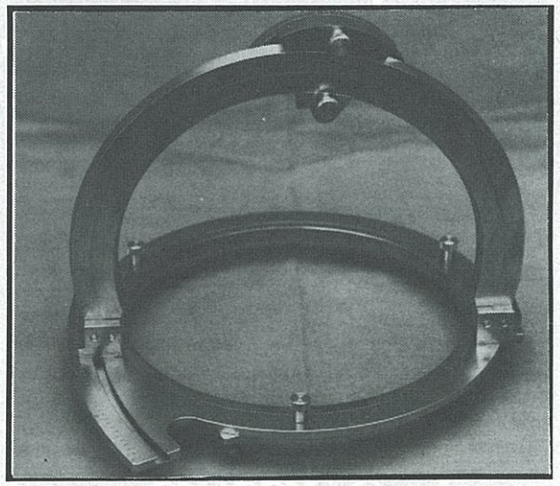


Figure 4. Arc guidance system

IV. Phantom simulator (unsterile component)

This component allows the surgeon to simulate the biopsy or aspiration, thereby indentifying any errors in the transcription of the data before the actual procedure is performed. **(Figure 5)**

V. The programmable computer

The table top computer specially designed for stereotactic surgery handles the calculations and provides the measurements for the correct alignment of the arc system, and for calculation of the depth of the area to be biopsied. Two computers come with the system, one as a backup. When the batteries run down, the computer will spell this out. Eight hours are required to charge the batteries. **(Figure 6)**

Some uses of the BRW system:

1. Biopsy of brain lesions.
2. Drainage of cysts and abscesses.
3. Brachytherapy - This is an up and coming procedure soon to be done at our hospital. It is the implantation of radioactive seeds into the centre of a tumor.
4. Functional neurosurgery - creation of lesions in the basal ganglia decreasing tremors, as in Parkinson's disease. This procedure is not done at St. Boniface General Hospital at this time.

Stereotactic procedure or a craniotomy?

Some of the factors used by the surgeon to determine whether the patient requires a stereotactic procedure or a craniotomy are:
1. Lesion is deep-seated.
2. Lesion located on patient's dominant hemisphere.

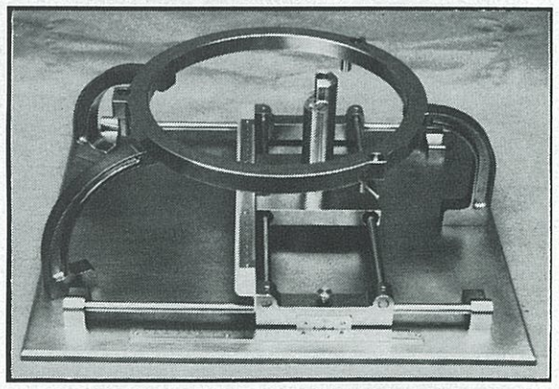


Figure 5. Phantom simulator

Figure 6. Programmable computer

3. Lesion is in a critical area where the patient would have a major deficit if the lesion was excised.
4. Patient could be a medical risk: other medical problems, and not capable of tolerating a craniotomy or a general anaesthetic.

How the surgery is performed

Three approaches:
A. Twist drill
B. Burr hole
C. Craniotomy (rare)

All of our cases to date have been done through a twist drill. This enables us to use very minimal instrumentation.

Local anaesthesia

The nice thing with this procedure is that it can be done under a local anaesthetic. The advantages are many:
A. The surgeon has the patient's cooperation throughout the procedure. This is extremely important as the patient is required to remain still throughout the procedure.
B. The surgeon is able to communicate with the patient at all times. When the lesion is located on the patient's dominant hemisphere, the surgeon is able to get the patient to move an arm or leg, squeeze someone's hand, or to answer questions while the biopsy is being performed. This task would be impossible under a general anaesthetic.
C. Recovery time is short - 99% of patients go home the next day. Biopsy results take about a week and usually there is no need for the patient to remain in the hospital.
D. Fewer side effects from a local anaesthetic vs. a general anaesthetic.

Pre-op Visit

The pre-op visit is an important aspect of the surgery. Since the patient will be awake for the surgery it is beneficial to go over the procedure with the patient with the assistance of pictures.

Points covered on visit:

1. Approximate time that the surgeon will be putting the headring on in the morning
2. NPO after midnight
3. Full head shave in evening
4. Visit by anaesthetist
5. Establishment of an intravenous for fluids, IV medications (ie. Decadron), and for injection of contrast during the CT scan
6. Explanation of how the headring is put on by surgeon. Emphasis is on local infiltration and its discomfort; the tightening of the headring; instrumentation is hand held, no power equipment used
7. Visit to CT unit
8. Procedure on arrival to O.R
9. Prepping of head with warm antiseptic solution
10. Draping of patient's body with sterile sheets
11. Duration of stay in P.A. - or return to ward

The patient is given an opportunity to verbalize any fears he/she may have and ask any questions. This visit can take anywhere from 1/2 - 3/4 hours.

Application of headring

Early in the morning the perioperative nurse arrives so the chart can be reviewed for completeness prior to surgery. The working area is prepared, usually the overhead table. The patient is asked to empty his/her bladder prior to start of the procedure. The patient sits on the edge of the bed and pillows are placed behind for support. The headring is prepared for the surgeon's arrival using sterile technique.

The surgeon arrives and prepares the headring. The head is prepped with an antiseptic solution. The headring is balanced on the patient's head with assistance of the velcro strap. Once in correct place, carbon posts will be adjusted with screwdriver so they are flush with the scalp. The local anaesthetic is infiltrated into the four areas where the plastic

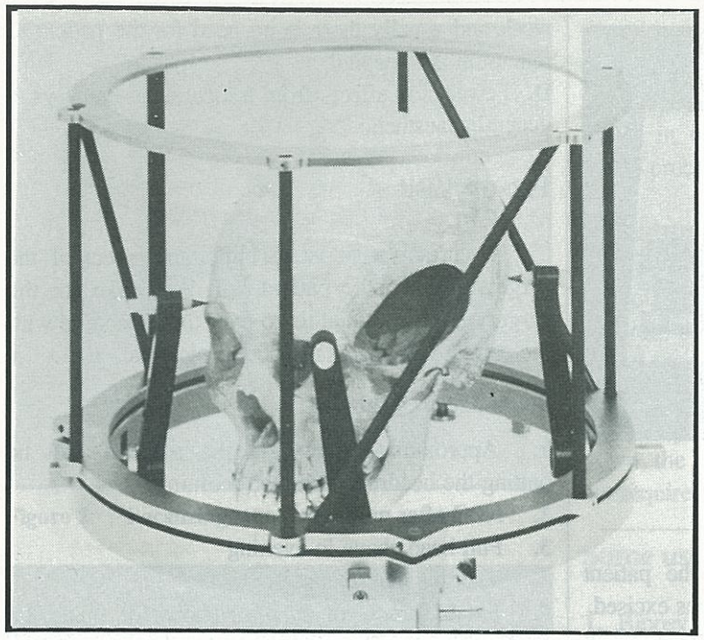


Figure 7. The localizing ring is locked on to the headring

pins will be inserted. The pins will be screwed through the post openings with the fingers. At times the two front pins cause pain, even with the local. This is because of the muscle that has to be penetrated. The pins are tightened with the special screwdriver. This will cause pressure and discomfort to the patient, but will only last a very short time. The headring will be tested for security and the velcro strap removed. If the patient continues to have any discomfort, additional local anaesthetic will be infiltrated at that particular pin site. The headring is comfortable once on. Sometimes a little comfort and reassurance is needed once the headring is in place. Pre-op medication is given as ordered.

CT unit

The patient is assisted onto the stretcher and taken to the CT unit by the surgeon. The surgeon takes the localizing ring with him/her to be locked on the headring once in the CT unit. **(Figure 7 above)** Patient is positioned on the table by the nurses in CT room. Surgeon injects the contrast media via the intravenous. Scanning takes approximately 15 minutes - 20 minutes if any retakes are needed. The scanning intersects the nine rods on the localizing ring. The nine artifacts are required to determine the exact position of the target relative to the headring. Once scanning is complete, patient is taken directly to the O.R. With the software in the scanning computer the X & Y coordinates of each of the artifacts are obtained. This is done by the radiologist, by placing the cursor on each of the artifacts including the target. Each coordinate is transcribed by the surgeon onto a special sheet provided by the manufacturer. This is taken by the surgeon to the O.R. A print of each scan is also taken and brought over to the O.R. for after-verification, if needed.

Preparation of patient for O.R.

While the coordinates are being obtained the patient is brought over to the O.R. theatre. The patient is settled on the table, BP cuff and monitor leads are placed on, pillow positioned under the knees, safety strap placed on above knees, and arms secured. Surgeon will position the headring to the table with the last component of BRW system, the Mayfield adaptor. **(Figure 8)**

The headring is secured and the head is prepared according to surgeon's preference with a warm antiseptic solution. Patient's body is draped with sterile draping. Great care is taken to maintain a sterile field. The headring, which was placed on under sterile conditions, is no longer sterile.

The arc system and entry point

The surgeon now determines the entry point. As mentioned earlier, the surgeon will use the sterile arc system and use the surface of the patient's scalp. The arc is part of the scrub nurse's set-up. It has

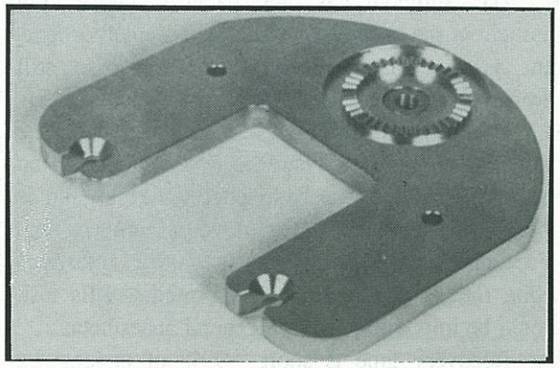


Figure 8. Mayfield adaptor

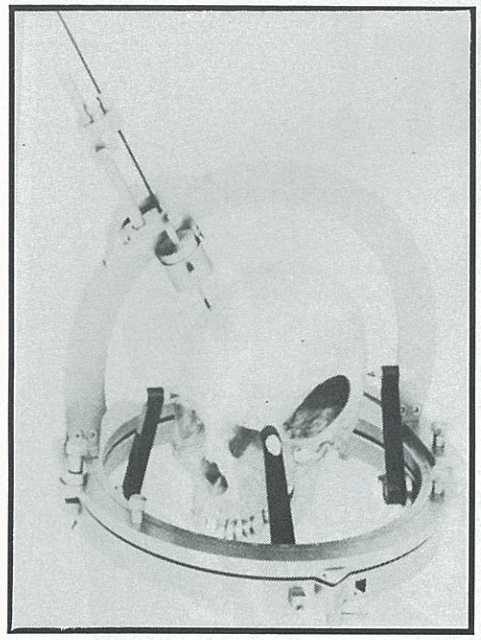


Figure 9.
The arc system in place on the headring

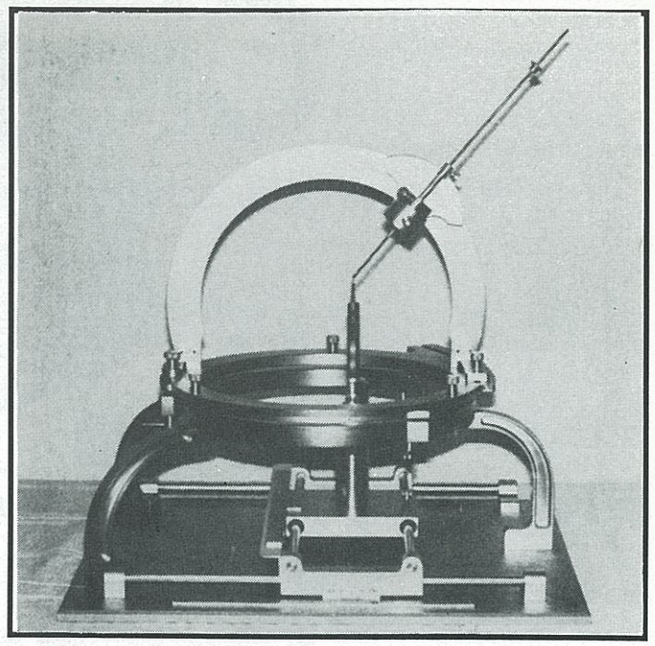


Figure 10.
Simulation of surgery

four moveable angles (delta, beta, gamma, alpha). The arc is locked onto the headring. The arc is rotated to the area chosen on the scalp by the surgeon. This area is marked with a sterile marking pen. **(Figure 9 above)**

All four moveable parts on the arc are tightened. The arc is transferred to the phantom base and secured. Local anaesthesia will be infiltrated at this time.

The pointer is lined up with the sterile pointer on the phantom base. Scales on the phantom are read giving the entry point coordinates. These coordinates are transcribed onto the special paper with coordinates from the CAT scan.

Data and the computer

With this information we are now ready to feed our data into the computer. All the X and Y co-ordinates from the CT scan are placed in by the surgeon. Coordinates are checked for any errors, and errors that have been corrected, if any. The computer is then run.

These co-ordinates give the target values to be set on the phantom base. The entry point coordinates are entered, checked, and computer run. After a few seconds the computer prints out the other information needed to do the surgery. This printout, will become part of the patient's chart. We are now ready to simulate the surgery.

With the arc system locked onto the phantom base the target values from the printout will be set on the base, the four angle coordinates set on the arc, and the depth measured on the cannula. Cannula will be introduced. It will touch the top of the target within 1 mm. If cannula is off a distance greater than 1-2 mm then an error has been made. **(Figure 10)** The sequences just described are our surgeon's way of doing his surgery. There are other ways that the same can be accomplished.

The surgery

After successful simulation, we are now ready to do the biopsy or aspiration on the patient. The arc is returned to the headring and locked into place. A small incision is made, drill is introduced and small entry is made into the cranium. **(Figure 11)**

The surgery is performed, specimens sent, area sutured closed and headring is removed. A small dressing is applied to area. The patient is taken to either P.A. or sent back to the ward, the final decision made by the anaesthetist and surgeon.

Postoperative care plan

Postoperatively the patient should be closely monitored for signs of increasing intracranial pressure which could be due to intracerebral bleeding or edema. Neurological and vital signs should be checked every ten minutes in the post anaesthesia care unit and then every fifteen minutes once the patient returns to the ward. If the neurological signs are stable after an hour, then the patient can be monitored every hour for four hours and progress to every four hours. The dressing should be observed for drainage. In order to promote venous drainage from the head and prevent intracranial pressure from rising, the head of the bed should be elevated 30°. The patient may experience mild incisional pain and can be medicated with analgesics.

There is also the potential for meningitis and the patient should be observed for signs of this such as nuchal rigidity, fever and chills, irritability and increased sensitivity to light. Patients can be up and about the same day and are usually discharged the following day.

Experience at St. Boniface General Hospital
Winnipeg, Manitoba, June, '86 - February', '87
13 cases performed
12 cases were tumor biopsies.
1 case was aspiration of an abscess.

Summary of Cases

Lymphoma	3	(23%)
Astrocytoma	7	(53%)
No diagnosis	1	(08%)
(Tumor was firm or difficult to obtain tissue from)		
Metastatic	1	(87%)
Abscess	1	(08%)

Follow up cases

- Six patients resumed regular activities of life.
- Three patients independent but with a major or minor disability.
- One patient deteriorated, due to tumor progression.
- Three patients died as a result of original tumor: two patients lymphoma and one patient astrocytoma Grade IV.

Disadvantages of stereotactic surgery

In spite of the advantages, stereotactic surgery does carry with it some disadvantages. Some of these can be overcome with practice and education:

1. Heavy components

The phantom base is especially heavy requiring a portable trolley. Great care is needed in caring for this equipment and ensuring that nothing is dropped.

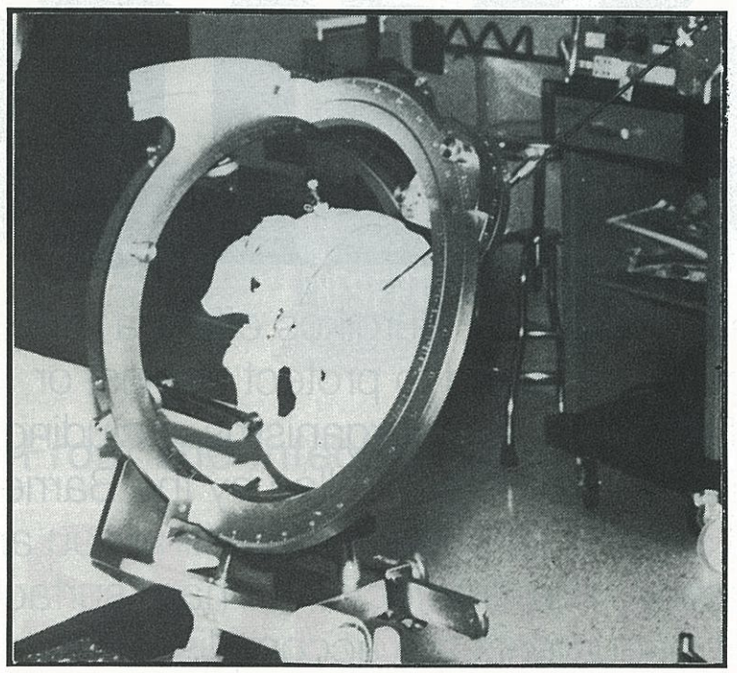


Figure 11. After simulation, the system is ready for the surgery. Illustration above shows the drill to be used to make the entry into the cranium.

2. ETO sterilization required

Because of the sterilization measures required, only one case can be done in a day.

3. Potential contamination

There is always the potential for contamination: transferring the sterile arc system from the headring to the phantom with the headring and phantom not being sterile, there is that chance. Great care is required by the surgeon and scrub nurse to maintain a sterile field. Meticulous technique is necessary from all staff.

4. Emergency intubation

Emergency intubation would be difficult due to the placement of the headring in front of the oral airway.

5. Long, fine instrumentation

Because most tumors are deep-seated, the need for long, fine instruments are necessary. Care and

it's what's not there that counts

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handling is extremely important. Teaching is necessary for the staff working with and caring for this equipment to keep it in good working order.

6. Transcription of coordinates

Last but not least is the accurate transcription of coordinates into the computer. All of us are human and mistakes can happen. That is why numbers are double checked. Small errors in transcription could lead to serious errors in the localization of the target point. As I said, education is the key, and some of these drawbacks can be avoided. (1)

Conclusion

This type of surgery opens new horizons in brain surgery for the neurosurgeon. With this modern technology, neurosurgeons are able to make a diagnosis for deep-seated, obscure lesions, and refine their treatment plan for their patients. Being a relatively new technique, it will contribute to new research studies at St. Boniface General Hospital.

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3) Sawaya Raymond, M.D., "The Brown Robert Wells Stereotactic System in Management of Intracranial Lesions," Contemporary Neurosurgery, Volume 8, No. 12, 1986.

4) Care Plan - Pat Gregory, R.N. - Nurse Educator, Neuroscience, St. Boniface General Hospital, Winnipeg, Manitoba.

Acknowledgement:

Special thanks to Dr. Michael West, Neurosurgeon, St. Boniface General Hospital, for all his assistance.

Calendar of Events...

March 6 - 11, 1988, Dallas, Texas: 35th Annual AORN Congress. (Contact Association of Operating Room Nurses, 10170 East Mississippi Ave., Denver, Colorado 80231 U.S.A.)

March 30, 1988, Hamilton, Ontario: Day in Orthopaedics, Hamilton Convention Centre. (Contact Programme in Continuing Medical Education, McMaster University, Rm. IM6, H.S.C., 1200 Main Street West, Hamilton, Ontario L8N 3Z5 (416) 529-9140 Ext. 2219).

April 3, 1988, Hamilton, Ontario: Surgery in the Elderly, Hamilton Convention Centre. (Contact Programme in Continuing Medical Education, McMaster University, Rm. IM6, H.S.C., 1200 Main Street West, Hamilton, Ontario L8N 3Z5 (416) 529-9140 Ext. 2219).

April 16, 1988, Toronto, Ontario: "Trauma Seminar for Operating Room Nurses," Toronto Convention Centre. (Sponsored buy the Operating Room Nurses Association of Greater Toronto. Details and registration: Elizabeth Jones (616) 733-3054).

May 30 - June 3, 1988, Vancouver, B.C.: National Conference, Operating Room Nurses Association of Canada (ORNAC); B.C. Convention Centre and Pan Pacific Hotel. (Contact, for **delegates**, Mary Raikes-Tindle, 5199 Turquoise Drive., Richmond, B.C. V7C 4Z6. **Conference Exhibitors,** for details and registration, Jean Kerr, 1105 - 2050 Nelson St., Vancouver, B.C. V6G 1N6).

October 21-21, 1988, Hamilton Area: 4th Annual Regional Conference, Operating Room Nurses Association of Hamilton and District, Prudhommes Inn, Vineland Station & Queen Elizabeth Way. (Contact Gale Mitchell, Chairman, Program Committee, O.R.N.A.H. & D. (416) 648-8076).

Future National Conferences
O.R. Nurses Association of Canada

1988-Vancouver, B.C., May 30-June 3
1990-Toronto, Ontario, April
1991-Banff, Alberta, May
1993-Province of Quebec

Executive Nominations
ORNAC 1988

Nominations have been received by the Nominating Committee of the Operating Room Nurses Association of Canada (ORNAC) for election to four ORNAC executive positions:

President Elect
Vice-president
Secretary
Treasurer

It should be noted that the incumbent president elect (Joan Donald, NB), assumes the position of president. Thus, there is no nominee and no direct election of the ORNAC president. Also, the incumbent president (Ann Robinson), assumes the position of past president.

Election of the four ORNAC executive members will be held on Sunday, May 29, 1988 during the ORNAC Board Meeting to be held at the Pan Pacific Hotel in Vancouver. This date coincides with the opening of the National ORNAC Conference slated to begin the following day, Monday, May 30th. Individuals nominated for the positions are:

President Elect (1) - (1) Sylvia Humphries (NFLD.)
(2) Gloria Stevens (B.C.)

Vice President (1) - Carol Lenox (Ont.)

Secretary (1) - Muriel Shewchuk (AB)

Treasurer (1) - Carole Starr (Ont)

To be eligible for nomination and election to the ORNAC executive, the candidate, according to the Operating Room Nurses Association of Canada by-laws, must be...

- A perioperative nurse whose primary professional focus is...

1. Direct patient care during the intra-operative phase of surgical intervention until admission to P.A.R./P.A.C.U.

or

2. Administration of the surgical suite

or

3. Involved in research pertaining to the intra-operative care of the surgical patient

or

4. A teacher of skills to student nurses and/or staff in the intraoperative setting.

- A CNA member (mandatory)
- An ORNAC board member or committee member for a minimum of two years.
- An active member of a provincial operating room nurses organization.

Nominee Profiles

President Elect

(1) Sylvia Humphries

Nursing Unit Administrator, Operating Room, Western Memorial Hospital, Corner Brook, Newfoundland, Ms. Humphries has been in nursing continuously since graduating from the above hospital's School of Nursing. She is presently in her 3rd year of part-time studies for her Baccalaureate in Nursing. A founding president of the Newfoundland and Labrador Operating Room Nurses Association (N&LORNA), she has been a member of ORNAC's Board of Directors since the inception of the national organization in 1983. Between 1986 and 1988, she served on the ORNAC executive as vice-president.

Among her stated objectives for the Operating

Room Nurses Association of Canada is to assist the national association in meeting its present goals and to enhance the role and image of the operating room nurse in Canada. She wishes to see the continuation of ORNAC as a cohesive national body, with the capacity to provide a more sophisticated and supportive role for all operating room nurses and related personnel across Canada.

(2) Gloria Stevens

Operating Room Instructor and Inservice Coordinator at St. Paul's Hospital in Vancouver, Gloria Stevens is chairman of the ORNAC National Standards and Education Committee as well as National Co-ordinator for the 1988 National O.R. Conference scheduled for Vancouver May 30 to June 3.

An R.N. graduate of the Victoria General Hospital in Halifax, Nova Scotia, Ms. Stevens' post basic education includes: a Diploma in Health Care Management; Personnel Management; the CHA's Nursing Unit Administration Course; Certification in Program Design and Implementation; and a Diploma in Adult Education.

Ms. Stevens was a member of the original group that organized the B.C. Operating Room Nurses Group (BCORNG) in 1964 and has served on a number of committees and in different capacities with this group including president from 1972 to 1974. Her involvement and experience with this group in the development of standards for patient care in the O.R. in the early 70s was instrumental in her becoming a member of the ORNAC Standards Committee in 1984. Presently, she is the chairman of the ORNAC National Standards and Education Committee.

Ms. Stevens received the "Innovative Nurses Award" from the RNABC in 1974 as well as the "Award of Excellence in Nursing Practice" last year.

Her goals and objectives as a nominee for president elect include the implementation of formal research in order to enhance the validity of operating room nursing practice, and possibly change and expand the role of the operating room nurse; assist in the furthering of operating room nursing education; and promotion of the image of operating room nursing through the various means available.

Vice President

(1) Carol Lenox

Nurse Clinician, O.R., P.A.R., Day Surgery and Endoscopy at the Mississauga Hospital, Ms. Lenox is president elect of the Operating Room Nurses Association of Ontario and Past President of the Operating Room Nurses Association of Hamilton and District. She has been serving on the ORNAC Board of Directors for the past two years and has also been involved with the operating Room Nurses Association of Greater Toronto.

Ms. Lenox received her R.N. from the Miami Valley Hospital School of Nursing in Dayton, Ohio and attended Wright State University there as well as McMaster University in Hamilton where she received her Bachelor of Science in Nursing.

She is a member of the Editorial Advisory Committee for the Canadian Operating Room Nursing Journal and a consultant for Cyanamid Canada. She has been a guest speaker on a number of occasions at O.R. gatherings throughout Ontario.

Ms. Lenox wants to see ORNAC develop a long term strategy plan with both short and long term objectives. She wants ORNAC to become actively involved in continuing education programs for operating room nurses in Canada. She envisions the exploring of various mechanisms for financial assistance to operating room nurses wishing to expand their educational horizons. As well, she advocates lobbying the appropriate government and health care agencies in order to allow ORNAC the opportuniy to provide input into educational programs for operating room nurses.

Ms. Lenox wishes to see ORNAC continue its involvement with the Canadian Nurses Association

on 'certification', the rationale being that the specialty knowledge required for operating room nursing practice demands high standards of practice and the promotion of a professional image. Certification, she feels, will do much to promote higher standards as well as enhance the professional image necessary.

Secretary

(1) Muriel Shewchuk

Director of Nursing, O.R. & P.A.R.R., Foothills Hospital, Calgary, Alberta, Muriel Shewchuk received her R.N. from the University of Alberta Hospital School of Nursing in Edmonton and her B.Sc.N. from the University of Alberta. Besides having taken a post-graduate course in O.R. Technique and Management, Ms. Shewchuk studied and received her Diploma in Teaching and Supervision from the University of Alberta.

Prior to her current position, she had been an instructor in Operating Room Post-graduate Course Technique and Management, Orthopaedic and Rehabilitative Medicine.

She has held a number of executive positions with the O.R. Nurses Association of Alberta, and has served as a board member of ORNAC where she has chaired a number of committees: Editorial Awards Committee (now ORNAC Awards Committee), Nursing Practice Standards Committee (original member), Technical Standards Committee (current).

Ms. Shewchuk has been a frequent lecturer and speaker at international, national and local conferences and seminars. She has also published a number of papers, including submissions published in the *Canadian Operating Room Nursing Journal, The Canadian Nurses Association Journal and the Alberta O.R. Nurses Association 'Newsletter.'*

Among her stated goals for ORNAC is the maintenance of a high profile of education and communication among operating room nurses across the country. This same high profile she wishes to see established to a degree on an international scale.

She also wishes to see ORNAC continue to support and promote the implementation of O.R. Standards across Canada, as well as support and promote the proposed "specialization and certification" process for operating room nurses.

Treasurer

(1) Carole Starr

Unit Supervisor, Operating Room, Civic Hospital, Peterborough, Ontario, Ms. Starr has close to 20 years operating room nursing experience. Currently, she is president of the Operating Room Nurses Association of Ontario and a board member of ORNAC. She has a certificate in Nursing Unit Administration, Departmental Management Certification, as well as an Operating Room Post-graduate Certificate. Ms. Starr attends the University of Ottawa part time where she is studying for her Bachelor of Science in Nursing.

Her goals and objectives for ORNAC include:

- Promoting and publicizing the work and objectives of ORNAC so that all nursing organizations across Canada will have a greater awareness of ORNAC as a national entity;
- Enhancing the professional image of ORNAC so that all O.R. nurses in Canada are aware of the benefits of membership;
- Greater emphasis on education by the national body.

10th National Operating Room Nurses Conference
Pan Pacific Hotel
Vancouver, British Columbia
May 30 - June 3, 1988

A legal checklist for O.R. supervisors

By L. E. & F. A. Rozovsky

Legal problems can and should be avoided. This is especially true in hospitals and particularly true in the operating room. As the chief administrative officer of the surgical plant, the responsibility for preventive law rests primarily on the shoulders of the operating room supervisor.

To carry out this role, the O.R. supervisor has an essential task. It is to become aware of the legal problems that exist or could exist in the operating room. Many of these problems continue to arise regardless of what the O.R. supervisor does. However, by becoming aware of the problems some of them can be avoided and the risk of others reduced. Often legal problems arise simply because those affected were not aware of their existence.

Why the O.R. supervisor

The O.R. supervisor takes on the preventive law role in a number of capacities. The first is as agent and representative of the hospital which could be held legally responsible for the negligence of its employees. The trend seems to be that the hospital could also be held responsible for the negligence of physicians. Such a responsibility is based on the legal idea that the hospital knows or ought to know that a particular surgeon or an anaesthetist is likely to act in a negligent fashion. There is no one in the O.R. other than the supervisor who can fully carry out the responsibility of the hospital board of trustees in this regard.

The O.R. supervisor should also practise preventive law for self-protection. Even though the hospital as an employer is responsible for the negligence of the employees, this responsibility is shared with the employees in their personal capacity. An O.R. supervisor might be held liable for negligently supervising or failing to take appropriate action which caused reasonably foreseeable injury.

The third reason for the O.R. supervisor's role in preventive law is to protect others in the surgical team. This would include the nurses and technicians who are hospital employees and physicians and surgeons who are self-employed.

Who's protecting whom?

One may question the desirability of protecting physicians and surgeons who are not ordinarily the responsibility of the hospital. The first reason is that the hospital might, in certain circumstances, be held responsible if it knew or ought to have known of a doctor's negligence and did nothing. The second is that when a physician/surgeon is sued, the hospital and its staff are invariably included as defendants. Thus, protecting a doctor protects the institution.

A legal checklist

To translate the O.R. supervisor's awareness of the legal problems into practical action, it may be of

About the authors

Fay A. Rozovsky is a member of the Massachusetts and Florida Bars and Associate Professor of Gerontology at Mount St. Vincent University in Halifax. She is also a consultant in health administration, risk managment and quality assurance, and visiting lecturer at Harvard, School of Public Health.

Lorne E. Rozovsky is a Halifax lawyer with the firm of Patterson Kitz, and Adjunct Associate Professor of Medicine and law and Lecturer in Dentistry at Dalhousie University. He is also an Honorary Fellow of the American College of Legal Medicine.

assistance to create a checklist. This checklist would include a number of questions which should be considered by the O.R. supervisor. Actions taken in response to these questions would help to reduce many of the legal risks.

1. Does the surgeon have the privileges to perform the surgery which has been booked? It may be negligence for a hospital to allow a surgeon to perform surgery for which he does not hold privileges and may not be competent to perform.

Does the surgeon have privileges for the surgery that is actually being performed? The surgery being performed may not have been what has been booked. This creates the problem of having to interrupt the operation which could cause greater harm to the patient than allowing it to proceed.

To avoid this problem there should be an established procedure whereby the O.R. supervisor is notified, so that someone within medical administration can take whatever action is appropriate.

2. Is the documentation of consent to treatment complete? Is there a record signed by the surgeon that the operation has been explained to the patient in accordance with established hospital policy? The fact that the patient acknowledges that it has been explained is not evidence that this in fact has been done. The explanation must include information on the risks and alternatives. The patient is in no position to know whether a full and properly presented explanation has been given.

Is the surgery being performed the procedure to which the patient has in fact consented? If the situation is a medico-legal emergency for which consent is not required, is there a record that the situation was an emergency and that the patient was not able to consent?

3. Following surgery, are the records of the operation accurate? Failure to have accurate records could jeopardize the defence of any lawsuit brought against the hospital, its employees, the surgeon or the anaesthetist. Failure to complete records immediately after the operation is over could also jeopardize, not only the acceptability of the records as evidence, but the credibility of other records as well.

4. Is there a procedure with respect to spectators who are not directly involved in the operation? Has it been followed? Is the patient aware that there were students or other observers who were not involved in the care or performance of the surgery?

5. If observers have been attending, there should be a record as to who they were, why they were present and who authorized their attendance.

6. If foreign objects are found on the patient, such as dentures, rings, jewelry, or are removed from the patient such as bullets, is there a procedure for retaining these objects? Has this procedure been followed and documented? The loss of these objects may result in a claim against the hospital by the patient. It may also be required as evidence in a civil or criminal action.

7. If an incident occurs in the operating room, either before, during or after the surgery has been started, has the procedure for completing the incident report been followed? Is the report accurate? Does everyone in the O.R. know what constitutes an incident and under what circumstances an incident report is to be completed?

8. Is there an established procedure to be followed if an equipment failure takes place? Has that procedure been followed after such a failure? Has it been properly recorded? Has there been a follow-up to ensure that the equipment has been checked and in working order, or that it has been replaced?

9. Is there an established protocol when there is a dispute in the operating room? If a dispute occurs between a surgeon and an anaesthetist, or between a surgeon and a nurse, is there some method of settling such a matter? Can a nurse call for assistance? Are records made of such an incident and is there a method to investigate it so that further incidents will hopefully not occur again?

10. If for some reason a member of the O.R. team must be replaced, or that further assistance is required, is there an established method for doing this? Is there assurance that the replacement or additional staff is competent? Does the nursing office send a nurse who is not trained in O.R. procedures? Was the response appropriate to having such a person on the team? Would it have been better to cancel the surgery or to do without such assistance? Did the operation proceed without sufficient numbers of qualified staff in the first place?

Costly consequences

By establishing a checklist which will raise these questions and other similar issues, immediate action can be taken to reduce the risk of legal problems. Otherwise, the supervisor, the administration and the hospital may never know that some of these problems exist. For that lack of awareness, the legal price may be costly. ■

General Journal Information

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Shaughnessy Hospital
4500 Oak Street
Vancouver, B.C. V6H 3N1

ST. PAUL'S HOSPITAL OPERATING ROOM NURSING PROGRAM

The program consists of 460 hours of formal lectures, tours and 495 hours of clinical experience. The clinical experience includes the scrub and circulating roles in all services, including Open Heart lectures and observation.

This program will prepare you to function in any sized operating room.

For further information contact:

PERSONNEL DEPARTMENT
St. Paul's Hospital
1081 Burrard Street
Vancouver, B.C.
V6Z 1Y6 (604) 682-5007

St. Paul's Hospital
1081 Burrard Street, Vancouver, British Columbia V6Z 1Y6 (604) 682-2344

HEAD NURSE OPERATING ROOM

We are seeking a dynamic progressive Clinical Head Nurse to provide strong leadership to staff in a 9 theatre Operating Suite. Reporting to the O.R. Supervisor, you will be responsible for the supervision of clinical nursing practice, professional development, standards, audits, and policies and procedures.

The successful candidate will have a Baccalaureate Degree and 5 years' recent O.R. experience. You must be a proven leader with some management experience and excellent communication skills. Eligibility for Ontario registration is required. Please submit resume to:

Personnel Department
Toronto East General and Orthopaedic Hospital Inc.
825 Coxwell Avenue
Toronto, Ontario M4C 3E7
(416) 469-6300

OPERATING ROOM NURSES

Toronto General Hospital is seeking qualified nurses for our 24-hour, 7 day per week, 26 room operating room suite. We need highly-motivated nurses who have at least one year of experience and who want the challenge of working in a dynamic and stimulating environment. Eleven services, including open heart, neurosurgery, microvascular surgery and organ transplantation, provide O.R. nurses with an opportunity for team collaboration and area specialization. On-site clinical teachers and active regular inservice and staff development programs ensure staff educational opportunities.

Successful candidates must have:
- Minimum one year O.R. experience;
- O.R. course or the equivalent;
- Current registration or be eligible for registration in Ontario.

If interested, please send your résumé, in confidence, to:

Personnel Department,
Toronto General Hospital,
657 University Avenue,
Toronto, Ontario M5G 1L7

TORONTO GENERAL HOSPITAL

"Father and Child"
Eskimo carving by Oviloo Toono, Cape Dorset

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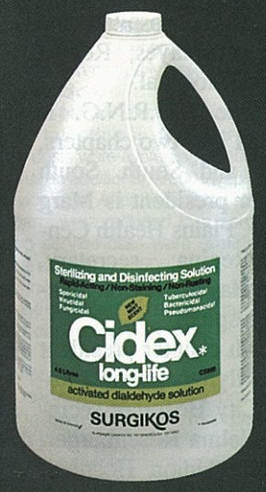

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Saskatchewan O.R. nurses working for a viable and productive association

The Saskatchewan Operating Room Nurses Group (S.O.R.N.G.) is interested in contacting as many operating room nurses in the province as possible. The existing group is working toward the expansion of its membership.

Annual membership dues are $20.00 for R.N.'s with an associate membership of $5 for O.R.T.'s. This entitles members to discounts on future conferences/seminars/workshops, the group's newsletter and the S.O.R.N.G. logo pin.

If you are an operating room nurse or O.R.T. in Saskatchewan and interested in the association, you are asked to contact one of the provincial executive members listed below

The present executive is interested in building a strong base for a provincial association representing all operating room nurses in the province. At present, there are over 50 members. Currently, Saskatchewan OR nurses are represented nationally on the ORNAC board by Darlene Stuttard, Saskatoon City Hospital and Margaret Hayes, Regina General Hospital.

The S.O.R.N.G. is divided into two chapters, North and South. South chapter president is Marg Farley, Plains Health Centre, Regina; secretary, Marg Hayes, Regina General Hospital.

North chapter president is Marilyn Argue, Saskatoon City Hospital; secretary, Velma Rosenburger, Victoria Union Hospital, Prince Albert.

Provincial co-ordinator is Darlene Stuttard, Saskatoon City Hospital; and membership rep is Loretta Thomas-Aasen, Weyburn Union Hospital.

Saskatchewan R.N.s working in the O.R., O.R.T's and anyone interested in the provincial OR group are asked to contact any of the above individuals for information.

Recommended standards for OR nursing practice and QA audit still available

The Operating Room Nurses Association of Canada's Recommended Standards of Operating Room Nursing Practice and Quality Assurance Audit are still available.

This document represents the profession's responsibility to promote excellence in operating room nursing practice. It consists of 42 pages of operational definitions, models, audit forms, work sheets, score sheets and tabulation results.

The cost is $12.00, which includes postage and handling and delivery.

For the English or French version, orders (number required) along with payment should be directed to:

O.R. Nursing Standards
c/o Valerie Shirreff, Unit Administrator
The Mississauga Hospital, 100 Queensway W.
Mississauga, Ontario L5B 1B8

O.R. nurses of Alberta Provincial Executive

The 1987-88 provincial executive of the Operating Room Nurses Association of Alberta (ORNA): **Front row, left to right:** Carol Rolfe, Red Deer (past-president); Pat Petersen, Lethbridge; Margery Ensminger, Medicine Hat (president); Sharon Balkan, Edmonton (secretary); Jackie Waisman, Red Deer (president elect). **Back row, left to right:** Pat LaPlante, Edmonton (treasurer); Gwen Uren, Lethbridge; Ethel Berestove; Gail Wagner, Calgary; Pat De Carlo, Calgary; Regina Leonard, Red Deer.

Opening of the Quebec OR product exposition

The ribbon-cutting ceremony officially opening the OR/surgical products exposition during the 22nd Annual Quebec Provincial Operating Room Nurses Conference held in Quebec City last September. Centre, left to right holding and cutting the ribbon: Danielle Leger, president of the exhibitors' committee (C.H. Universitaire Laval); Mario Marcil and Jean-Luc Belanger, representing the exhibitors; and Mariette Forgues Guay, president of the conference organizing committee (Hotel Dieu de Levis).

Alberta nurses celebrate 10th Anniversary

The Operating Room Nurses of Alberta (ORNA) celebrated their 10th Anniversary last year, and the occasion of the Annual Provincial Conference in Red Deer this past Fall was the site for the festivities. Photograph has Sarah Doughty, a past president of ORNA, Dorothy Orr (centre), the founding president and Marge Ensminger (right), current president, with the Anniversary cake.

Quebec OR nurses stage successful provincial conference

Close to 700 nurse delegates and OR/surgical product suppliers attended the 22nd annual Quebec provincial OR conference sponsored by the Operating Room Nurses Association of Quebec.

Held at the Quebec Municipal Convention Centre in Quebec City in early September, the gala three-day gathering welcomed delegates from across Quebec and neighbouring provinces.

The next Quebec provincial O.R. nurses conference will be held in Montreal in 1989. Dates and location have not yet been confirmed.

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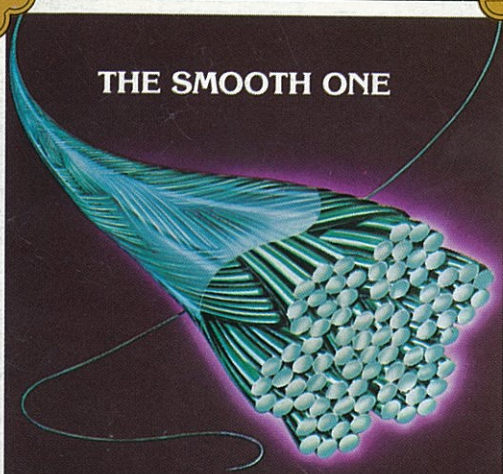

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