CANADIAN
Operating Room Nursing Journal
Volume 7, Number 5, October/November, 1989

Patient Positioning

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Published by Health Media Incorporated

Canadian Operating Room Nursing Journal,
214 Merton St., Suite 202,
Toronto, Ontario M4S 1A6
(416) 481-2244

Subscription Rates:	1 Year	2 Year
Canada	$16.00	$26.00
United States	$22.00	$36.00
Other Countries	$26.00	$40.00
Single copy orders		$5.00

I.S.S.N. 0712-6778
Second Class Mail Reg. No. 5934

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04 Patient Positioning (A Reference Guide)

Patient positioning is an important surgical consideration. It is one of the key factors in accessing and exposing the operative site. It is incumbent upon the operating room nurse to be fully aware of the interventions and rational behind the various patient positions required for surgery.
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14 Kidney Transplants

Kidney transplantation involves transplanting a kidney from a living donor or human cadaver to the recipient who has end-stage-renal disease. In this submission, the perioperative care of the transplant recipient is discussed, along with the latest information on immunosuppression and infection prevention.
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22 Feminism and the Future of Nursing

The intent of this article is to entice readers to think about nursing and the profession of nursing within the purview of the 'feminist paradigm.' This involves an explanation of how the nursing profession has been shaped by the patriarchal tradition. The author also highlights several contemporary nursing issues for which feminist analysis may have particular relevance in the future.
By Donald Sabo, Ph.D.

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Patient positioning...

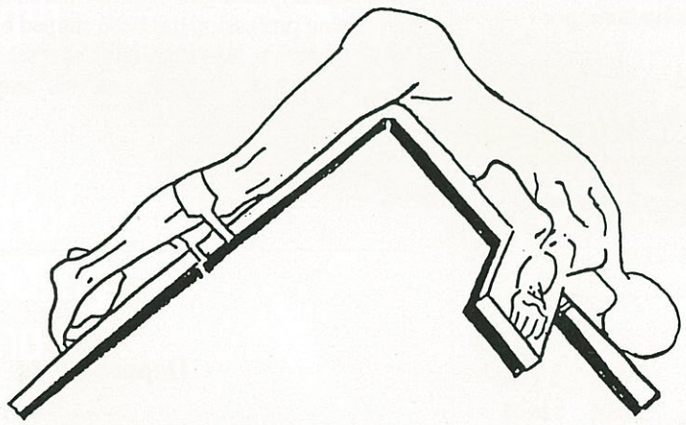
(A ready-reference guide)

By Marielle McLellan, R.N.

Proper patient positioning is an important surgical consideration. Positioning is a key factor in accessing and exposing the operative site. There are also key safety factors implicated. Such functions as circulation and respiration as well as neuromuscular status can be compromised if the patient is improperly positioned. It is incumbent upon the O.R. nurse to be fully aware of the interventions and rationale behind the various patient positions. The following fundamentals of positioning have been developed as a guide. They were compiled by Marielle McLellan, Clinical Co-ordinator, Rockyview General Hospital in Calgary, where they have been implemented as a standardized reference for operating room staff.

Position: Jacknife (Krashe) - (Haemorrhoidectomy, pilonidal sinus)

Interventions	Rationale
• Place patient in prone position with upper body over parallel chest rolls; hips are placed over larger roll and over the break in the table.	• Allows for expansion of diaphram and lungs. Avoid compression of abdomen and genitalia.
• Place both arms out on armboards at right angles to the body, and secure arms to armboards.	• Prevents patient's weight from resting on elbows.
• Support the arms continuously; do not allow forearms to hang over the sides of the table.	• Prevents displacement of forearms; prevents fractures and dislocations.
• Place a pillow under the lower legs.	• No pressure on feet.
• Position a safety strap below the knees.	• Prevent injury.
• Entire table is tilted head down.	• Hips are raisesd and body is balanced.



Disadvantages/possible complications

1. Adversely affects respiration and circulation. **2.** Vital capacity reduced 12.5% due to restricted diaphramatic movement and heavy volume of blood in lungs. **3.** Marked peripheral pooling in dependent portions of body, compounded by severe obstruction to inferior vena cava.

Position: Supine/Dorsal - (Most commonly used position - generally the least harmful to patient - circulatory changes are least pronounced)

Interventions	Rationale
• Maintain patient's head and hips in alignment.	• Prevent spinal injury; maintain body alignment.
• Small pillow/ring placed under the head.	• Relaxation of strap muscles; prevent neck strain; maintains open airway.
• Keep legs parallel, uncrossed, slightly separated.	• Prevent tibial and peroneal nerve injury and compromised circulation.
• Heels rest on padded surface.	• Assure good venous return in legs.
• Leg restraint/safety strap 2" above knees and not too tight.	• Prevent injury from accidental fall.
• Arms are placed by the patient's side on the mattress, padded and secured with a lifting sheet.	• Prevent pressure points and ulnar nerve injury.
• Hands are placed palms down, not under buttocks, and elbows not resting on metal edge of table.	
• When using armboards, place arm on board at less than 90° angle with palms down. Lock armboard into place.	• Decrease pressure on the brachial and ulnar nerves; ensure good venous return.
• Use additional padding if required.	• Maintain continuous flow of I.V. fluids.
• Secure the arm to the armboard with velcro strap. Check that it is not too tight.	

Disadvantages/possible complications

- Marked obstruction to venous return, i.e., abdominal retractors, packs, intra-abdominal mass as in pregnancy.
- Brachial plexus injury in abducted arm; causes motor and sensory loss to arm and shoulder girdle.
- Hyperabduction of arm causes compression/occlusion of subclavian and auxilary arteries.
- Radial nerve palsy, i.e., misplacing/compressing arm against the side of the table can cause wrist drop.
- Median nerve compression causes ape hand deformity.
- Ulnar nerve compression causes claw hand deformity.
- Leg vessel injuries, i.e., mechanical occlusion by leg straps/misplacing a pillow directly under popliteal space (compression causes venous thrombosis).
- Tibial/sural nerve damage, i.e., pressure injury under knee causes numbness on planter surface of foot.
- Skin pressure injuries occur most frequently in this position.
- Obese/underweight individuals are vulnerable to pressure(s).

- Underweight - pressure more intense in smaller areas.
- Overweight - pressure more extensive, but moderate.

Position: Prone - (Respiratory effectiveness is reduced)

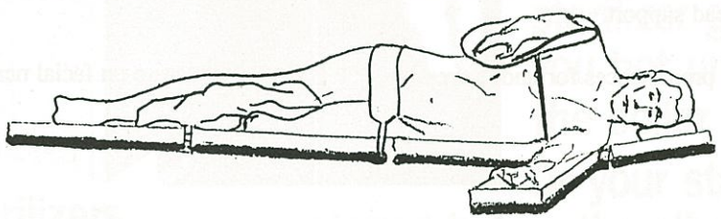
Interventions	Rationale
• Provide support to the patient; maintain body alignment. Adequate assistance to turn patient (i.e., 4 staff members).	• Prevent injury to patient and staff.
• Place patient's arms on padded arm boards; support the arms continuously; do not allow arms to hang over sides of table.	• Prevent the patient's weight from resting on elbows; prevent displacement of forearms, fractures/dislocations.
• Flex elbows slightly with palms pronated; elbows are padded and secured to arm boards.	• Prevent pressure on ulner nerves.
• Bolsters/chest rolls are placed under the chest lengthwise so they extend from the acromioclavicular joint to the iliac crest; padding under knees.	• Allow for expansion of diaphram and lungs; prevent hypoxia; avoid compression of abdomen and genitilia.
• Flex legs at the knees; place pillow(s) under the patient's lower legs.	• Avoid pressure on the toes and planter flexion (no higher than 45°).
• Place a blanket or pillow over the flexed knees.	
• Secure legs with a safety strap placed across the thighs and above the popliteal space.	• Prevent pressure on popliteal space.
• Head is turned to one side on a head ring; keep neck in alignment with the spine.	• Prevent spinal injury.
• Guard eyes against pressure/irritation from drapes, solutions and head support.	• Prevent corneal irritation.
• Check ear/bony prominences for undue pressure.	• Prevent pressure on facial nerves & blood vessels.

Disadavantages/possible complications

- Obstructed venous flow possible in obese patient/patient with abdominal mass.
- Pressure is greatest on chest, knees, ankles, shoulders and iliac crests on thin individuals.

Position: Lateral - (Respiratory effectiveness reduced)

Interventions	Rationale
• Need minimum of 4 staff to position patient. • Patient is turned onto the unaffected side. • Place a pillow under the patient's head.	• Maintain good alignment with cervical and thoracic spine.
• Support upper arm while patient is turned. • Arm placed on an arm rest/pillow(s).	• Prevent compression of venous return and intervenous site.
• Place padding under lower axilla and elbow.	• Allow for chest expansion; prevent pressure injury.
• Support upper leg as patient is turned. • Lower leg is flexed and upper leg is straight. • Bean bag, sand bag, or roll sheets may be used on either side of patient.	• Permits torso stabilization. • Stabilization of patient. • Stabilizes the patient's upper body.
• Place 2" adhesive strips across thighs, hips and shoulder to both sides of O.R. table.	
• Bring lower shoulder slightly forward and flex the elbow so arm is toward patient' s face.	• Prevent pressure on the brachial plexus; prevent compression of venous return.
• Place pillow between the legs.	• Support upper leg; decrease pressure points.
• Pad ankles and knees.	• Prevent pressure and nerve injury.

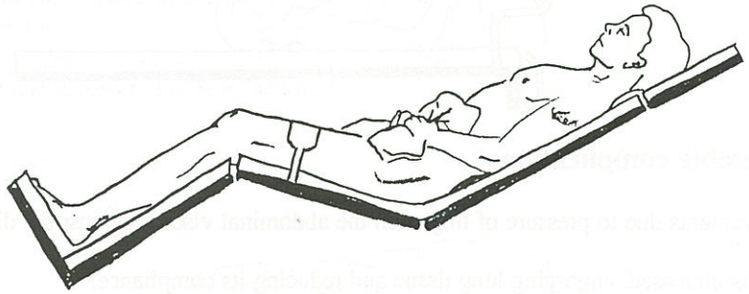


Disadvantages/possible complications

- Vital capacity is impaired due to restricted chest movement.
- Different gas-to-blood exchange ratio in each lung (i.e., for adequate ventilation, lung on lower side must fill enough to move mediastinum up, push diaphram down and spread the ribs on underside.
- Blood pools in dependent limbs.
- Skin pressure between the legs from the weight of the upper leg on the lower leg and greater pressure under greater trochanter of femur.
- Brachial plexus and medium, radial and ulner nerves (i.e., if upper arm extended to overhead position and not properly supported).
- Peroneal nerve damage from compression of lower knee against a hard surface.

Position: Sitting - (Craniotomy, some facial operations)

Interventions	Rationale
• Patient is placed in dorsal position with knees over the break of the table.	• Best for respiration as there is practically no abnormal restrictions on the chest.
• A padded footboard supports feet at right angles.	
• Upper portion of table is raised 45° (sometimes more if full sitting position is required).	
• Foot of operating table is lowered so knees are slightly flexed.	
• Small pillow/head ring is used under the head.	
• Arms are placed over abdomen; place the arms over a pillow making sure elbows are well padded.	• Prevent pressure points and ulnar nerve injury.
• Place a safety belt over the thighs.	
• Entire table is tilted slightly head down.	• Prevent patient from slipping toward foot of table.



Disadvantages/possible complications

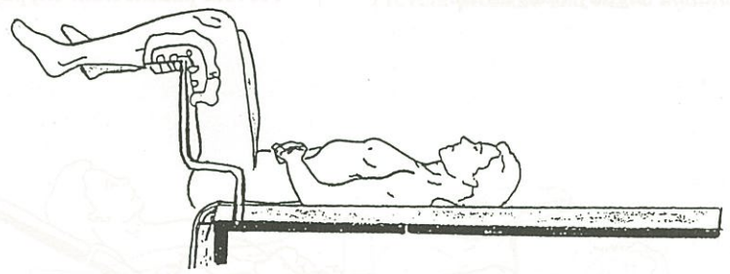
- Systemic circulation is greatly compromised resulting in hypotension and loss of consciousness.
- Skin pressure areas and sciatic nerve damage due to most of weight resting on ischial tuberositates.
- Foot injuries due to sacral pressure (place feet at right angles).
- Eye injuries due to improperly placed head support.

* With neuro patients, the maintainence of blood pressure without increasing intracranial pressure is a problem with this position.

Position: Lithotomy - (Respiratory effectiveness decreased)

Interventions	Rationale
• Stirrup height adjusted to patient's legs. • Patient positioned dorsal on bed with buttocks at the break in the bed.	• Prevent strain on lumbosacral ligaments/muscles.
• The patient's legs are raised simultaneously by two persons; support the knees and feet and flex the knees to place the feet in the stirrups.	• Reduce strain on lumbosacral musculature. Allows for changes in hemodynamics.
• Adjust stirrups so that there is no pressure on the legs against the metal post.	• Prevent venous thrombosis.
• Place patient's arms on armboards; fold arms across patient's chest and secure with the patient's gown/sheet folded across the chest and secured.	• Prevent injury to the hands during manipulation of the bed (i.e., pressure injuries).
• Lower legs simultaneously with two persons; support the knees and feet and lower gently.	• Allows body hemodynamics to adjust to change of position. Prevents sudden decrease in BP.

* 500 to 800 cc of blood may drain into the legs from the trunk and may lead to severe hypotension.



Disadvantages/possible complications

- Restricted chest movements due to pressure of thighs on the abdominal viscera against the diaphram.
- Pulmonary volume is increased, engorging lung tissue and reducing its compliance.
- Circulatory pooling of blood occurs in lumbar region. Venous flow may be reduced due to interference from lung expansion.

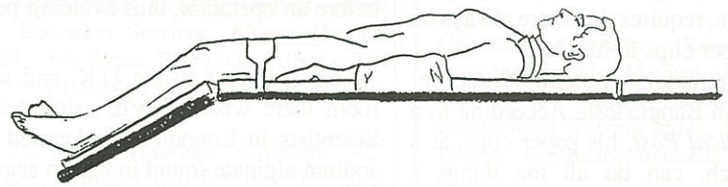
*** Possible injury:**

a) hand hanging over edge of bed - pressure injury.
b) hand caught in bed during raising/lowering end of bed - crushing injury.
c) folding arms across the chest - restricted respiratory effort.
d) pressure of elbow against bed - ulnar nerve damage.

- Femoral and obturator nerves (in groin) from pressure from misplaced instruments leading to sensory disturbances to inner aspects of legs.
- Damage to saphenous vessels/nerves (medial aspect of knees) due to improper padded/misplaced stirrups.
- Peroneal nerve damage (lateral aspect of knee) leading to foot drop.

Position: Tredelenberg - (Used for exposure on abdominal procedures)

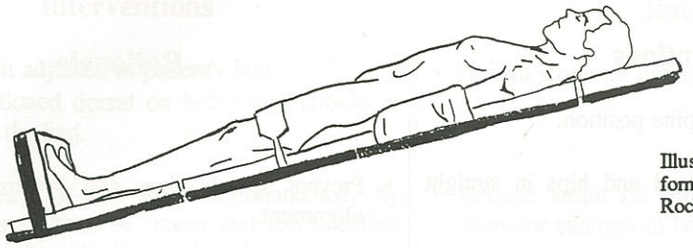
Interventions	Rationale
• Position the patient in supine position.	
• Maintain the patient's head and hips in straight alignment.	• Prevent spinal injury and maintain good body alignment.
• Small pillow/ring placed under the head.	• Relaxation of strap muscles; prevent neck strain; maintain open airway.
• Keep patient's legs parallel, slightly separated and uncrossed.	• Prevent tibial and peroneal nerve injury and compressed circulation.
• Heels rest on a padded surface.	• Assure good venous return in legs.
• Place leg restraint/safety strap 2" above knee and not too tight.	• Prevent injury from accidental fall.
• Place arms at the patient's side on the mattress, padded and secured with a lifting sheet.	• Prevent pressure points and ulnar nerve injury.
• Place hands palms down and not under buttocks; elbows are not to rest on the metal edge of bed.	
• Table is tilted downward to lower the head.	• Allows for better exposure by letting abdominal viscera fall into the upper abdomen.
• Place the patient's knees directly over the lower break in the table.	
• Foot of the table is lowered to flex the knees.	



Disadvantages/possible complications

- Marked obstruction to venous return
- Brachial plexus injury in abducted arm (causes motor and sensory loss to the arm and shoulder girdle).
- Hyperabduction of arm causes compression/occlusion of subclavia and axillary arteries.

Position: Reverse Tredelenberg - (Thyroidectomy)



Illustrations by Christian Ouellette, former O.R. nursing attendant, Rockyview General Hospital, Calgary

Interventions

- Maintain the patient's head and hips in straight alignment.
- Small pillow/ring placed under the head.
- Keep legs parallel, uncrossed, slightly separated.
- Heels rest on padded surface.
- A padded footboard prevents patient from sliding.
- Place leg restraint/safety straps 2" above the knees and not too tight.
- Place arms at patient's side, on the mattress, padded and secured with a lifting sheet.
- Bed is tilted so head is elevated and legs lowered.

Rationale

- Decrease blood supply to operative site.
- Facilitate operation.

Disadvantages/possible complications

- Circulation is compromised; peripheral pooling of blood in lower extremities.

* Movement from this position to normal must be slow to allow the heart time to adjust to changes in blood volume.

References: 1. AORN Journal, Volume 30, Number 2, August, 1979.
2. Alexander's Care of the Patient in Surgery, 8th edition; The C.V. Mosby Company, St. Louis, Mo.

Novel technologies finding their way way into the O.R.s of the world

One shouldn't be surprised at some of the new innovations that are taking place in operating rooms around the world. For example, a Bangladeshi surgeon has devised an innovative way of getting around the chronic shortage of medical equipment in his poverty striken country.

Dr. Shafiqul Hoque, a professor of surgery at Dhaka Medical College, requires that there always be a handful of sterile paper clips in his O.R.

He cannot afford retractors. A stainless steel retractor costs $100.00 in Bangladesh. According to a news item in the *Medical Post*, his paper clips, at a cost of one cent each, can do all the things a retractor can. He uses them to hold open the edges of small wounds, to retract blood vessels to allow access to deep organs and even as a skin hook on inserting stitches.

And up the coast a few thousand miles to China, we hear of another innovation, or re-innovation, this time with leeches. A Beijing surgeon considers leeches a mainstay of his surgical armamentarium.

Dr. Peng Jianqiang of China's Hubei Medical College has saved 22 fingers on 14 patients by using leeches to relieve extravasated blood.

He first introduced leeches while operating on a 20-yerar old women who had lost eight fingers in a paper-cutting machine in 1987.

Leeches have not been popular in modern times because of the fear of pernicious bacteria. But Dr. Jianqiang has a solution to that problem. He sterilizes the leeches with an antibiotic for several hours before an operation, thus avoiding post-op infection.

Next, it's off to the U.K. and into an operating room there where they're using seaweed bandages. Scientists in London have learned how to convert sodium alginate found in brown seaweed into a non-woven calcium alginate dressing that speeds up healing in such wounds as ulcers or pressure sores.

When the dressing is placed on the wound, it forms an alginate gel that creates moist conditions ideal fort healing. When the dressing is changed, the gel can be washed away with a saline solution, leaving the newly grown tissue unaffected.

Traditional dressings can damage healthy tissue on removal, and often cause pain and distress for the patient as well as delaying the process of healing.

Calendar of Events

National O.R. Conference

April 2 - 6, 1990, Toronto, Ontario: 11th National Operating Room Nurses Conference, Harbour Castle (Westin) Hotel. **Delegates** contact Audrey MacDonald, Operating Room, Mount Sinai Hospital, 600 University Avenue, Toronto, Ontario M5G 1X5. **Exhibitors** contact Valerie Shirreff, Operating Room, Mississauga Hospital, 100 Queensway West, Mississauga, Ontario L5B 1B8.

November 25-26, Toronto, Ontario Arthroscopy program for operating room nurses, Orthopaedic and Arthritic Hospital. Sponsored by Zimmer of Canada and the Orthopaedic and Arthritic Hospital. (For more information, contact Bette Hales, Zimmer of Canada, 2323 Argentia Road, Mississauga, Ont. L5N 5N3 (416) 858-8588. This program will also be held December 11 and 12).

Nov. 28 - December 1, Vancouver, B.C.: Health Conference '89: 2001 A Health Odyssey. Sponsored by the B.C. Hospital Association and the Registered Nurses Association of B.C. (Contact: R.K. Wood & Associates, Inc., 502 - 1281 West Georgia St., Vancouver, B.C. V6E 3J7 (604) 688-3787).

February 7 - 9, 1990, Calgary, AB: Quality of Nursing Life Conference: "Partners in Innovation;" Calgary Convention Centre. (Contact Jannice Moore, Director, Education Services, Alberta Hospital Association, 10009 - 108 Street, Edmonton, Alberta T5J 3C5. Telephone: (403) 498-8403; FAX: (403) 498-8465).

February 16 - 17, 1990, Windsor, Ontario: 4th Annual Conference, Windsor and District Operating Room Nurses Association, Hilton International Hotel. (Details: Darlene Beaudet, Windsor Western Hospital, Operating Room, 453 Prince Road, Windsor, Ont. N9C 3Z4 (519) 257-5178).

March 18 - 23, 1990, Houston, Texas: 37th Annual AORN Congress, the George R. Brown Convention Centre. (Contact AORN Meeting Services, 10170 East Mississippi Ave., Denver, Colorado 80231; (303) 755-6300).

October 18 - 20, 1990, Gander, Nfld: 11th Annual Conference, Newfoundland & Labrador Operating Room Nurses Association, Hotel Gander. (Exhibitors contact Henry Norris, James Paton Memorial Hospital, 125 Trans Canada Highway, Gander, Newfoundland A1V 1P7).

May 5, 1990, Windsor, Ontario: 11th Annual Symposium, Malignant Hyperthermia Association, Hotel Dieu Hospital, Windsor. (Contact Juliette Beaudet, Reg. N., Hotel Dieu Hospital, 1030 Ouellette Avenue, Windsor, Ontario N9A 1E1. (519) 973-4421; home (519) 728-2341).

June 27 - 29, 1990, Banff, Alberta: 21st Annual Scientific Sessions, Canadian Association of Neuroscience Nurses. (For more details on conference and for those submitting abstracts, contact Maureen Robertson, Box 676, Bragg Creek, Alberta T0L 0K0).

September 28 - 30, 1990, Regina, Ssak.: 6th Annual Conference, Saskatchewan Operating Room Nurses Group. (Contact Ginny Mielke, 106 Lockwood Road, Regina, Sask. S4S 3G2. Home: (306) 584-0692, Work: (306) 359-2325).

General Journal Information

Canadian Operating Room Nursing Journal, copyright, 1983, is published six times a year (February, April, June, September, October/November, and December) for operating room nurses and related surgical nursing personnel across Canada.

Canadian Operating Room Nursing Journal is indexed in Index Medicus, the Cumulative Index to Nursing and Allied Health Literature, and the International Nursing Index, United States National Library of Medicine, Bethseda, Maryland.

Canadian Operating Room Nursing Journal is published by Health Media Incorporated, Suite 202, 214 Merton Street Toronto, Ontario M4S 1A6

Kidney transplants

By Francine Robinet-Leduc, R.N.

Kidney transplantation involves transplanting a kidney from a living related donor or human cadaver to a recipient who has end-stage-renal-disease, and who requires dialysis in order to maintain life. In the information that follows, I have researched such areas as the pre-operative transplant recipient, immunosuppression and infection prevention.

Kidney transplantation is a form of treatment for kidney failure. Other forms of treatment include hemodialysis (HD), and continuous ambulatory peritoneal dialysis (CAPD)

Dialysis

The diffusion of accumulated uremic toxins across a semipermeable membrane, passing from the side of higher concentration in blood to that of lower concentration in dialysis fluid (dialysate), is known as dialysis. Dialysis is used in renal failure to remove toxic substances and body wastes normally excreted by healthy kidneys. The purpose of dialysis is to maintain the life and well being of the patient. Methods of therapy include hemodialysis and peritoneal dialysis. Both methods replace the essential function of the kidney.

Transplants vs. dialysis

With a successful kidney transplant, dialysis treatments would not be required. Constant removal of wastes and excess water, and the regulating of hormones would successfully occur (dialysis cannot regulate hormones). Other advantages are that renal transplantation would improve the physical health of the recipient, permit freedom from certain dietary restrictions, and would allow the recipient to experience a better quality of life with increased energy level due to absence of anemia.

Disadvantages

The risk of rejecting the transplanted kidney is to be considered as well as the risk of infection due to decreased resistance from the administration of anti-rejection medication. There would be frequent post-operative visits to the doctor and possible hospitalization for treatment of rejection episodes, and possibility of side effects due to the anti-rejection medication. Anxiety caused by fear of losing the function of the transplanted kidney is another disadvantage of kidney transplantation.

Candidates for transplantation

There is virtually no age limit in dialysis treatment for individuals with end-stage-renal-disease. The age range in which transplantation has been performed continues to lengthen. The usual age for a kidney transplantation ranges approximately between four and 65 years. Beyond this range, transplantations are usually not done, or are considered individually. Patient survival declines with increasing age.

There are several factors to consider when determining who should have a kidney transplant. The younger the recipient, the greater the chance for success. The individual's general health is to be assessed, as well as the original disease, and the person's ability to care for himself/herself.

Dialysis patients with severe chronic pulmonary disease, a known cancer within three years of surgery, advanced or non-correctible cardiac disease, or anyone with a known active infection are all considered unsuitable candidates. Other contraindications to transplantation are: severe congenital urinary tract abnormalities, coagulation disorders, mental retardation, psychosocial problems such as psychosis, alcoholism, and drug addiction.

Additional general assessments

A. Psychological study: To assess the individual's ability to deal with hospitalization and stress, and the ability to comply with a medication regimen and long term medical follow-up post-transplant.

B. Gastrointestinal evaluation: Diagnostic studies are done to rule out peptic ulcers. Upper gastro-intestinal haemorrhage and perforation of a peptic ulcer are dangerous complications to renal transplantation with a high mortalty rate; steroid therapy is thought to be important contributory factor. If a peptic ulcer is present, it may require surgical correction prior to transplant.

C. Infection evaluation: The respiratory and urinary tract should be investigated for infection. If infection is present, it must be eradicated before a transplant is possible. A skin test for T.B. is done to determine possible exposure to the bacillus. Immunosuppression could exacerbate an activation of T.B.

D. Urological assessment: Evaluation of the lower urinary tract is performed to rule out a neurogenic bladder, and to assess the ability of the bladder to accommodate normal urine output. Conditions requiring pre-transplant urological assessment include: bladder neck obstruction, ureterovesical and ureteropelvic strictures. In these cases, investigation usually starts with a voiding cysto-urethrogram. This will give information on bladder size and efficiency of emptying, and the presence of reflux.

Next, a cystoscopy may be done to inspect the bladder mucosa. At this time a retrograde pyelogram may be carried out. Urodynamic studies can be done as well: a cystometrogram (to provide evidence of bladder function and sensation), and an electromyography of the urethral sphincter. A decision can be made at this time as to whether or not urological surgery is required prior to the renal transplant.

E. Liver function assessment: Liver function studies are carried out to define the hepatitis status of the individual. Medications administered for kidney transplantation are potentially hepatotoxic; therefore, determining the degree of liver function present is of importance. The state of the hepatitis carrier is an adverse factor but not a contraindication to a transplantation. The individual assessed as being suitable and who has received all the necessary preparations can be considered for a kidney transplant.

Prior to any type of kidney transplant, several tests and treatments must be completed:

a) Blood tests

In order to minimize rejection and improve the chances of survival of a transplanted kidney, efforts are made to match as closely as possible the blood types and tissue types of the donor and recipient.

First, the blood is tested for ABO or blood type compatibility. Second, a tissue typing is done to identify the protein antigens that are specific to each individual. These antigens are the human leukocyte antigens (HLA), so called because they are easily identifiable on leukocytes. The more compatible HLAs the donor and recipient share, the less likely that tissue rejection will occur.

A third test that is done is cross-matching. This involves mixing the intended recipient's serum with lymphocytes from the potential donor. A positive reaction would show destruction of the donor's cells by antibodies in the recipient's serum, thus eliminating the possibility of using the kidney from that particular donor. The probability of survival of a transplanted kidney is greatest when the donor is a sibling who is HLA identical to the recipient.

b) Blood transfusions

In some centres, individuals being placed on the transplant list are expected to have blood transfusions before the kidney transplantation. It is believed that blood transfusions help protect the transplant recipient against rejection. In the research carried out, it has been found that at the Ottawa Civic Hospital 70-75% of recipients have successful kidney transplants with transfusions and 50-55% success without transfusions.

Selection of the kidney donor

When the decision is made that a renal transplantation is an option for the ESRD patient, a decision about the type of transplant to be performed must be made. There are two types of kidney donors: (1) living related donors and, (2) cadever donors.

The use of a living related donor for K.T. involves transplantation of a kidney from one of the patient's immediate family to the patient (mother,

father, brother, sister, son or daughter). When K.Ts. are done using living donors, it increases graft survival rates compared to cadaveric transplantation.

The operation can be specifically planned, thus allowing time for recipient preparation. The use of living donors allows the chronic inability of cadaveric donation to fulfill the increasing demand for organ transplants. (Keown, et al., 1986, p. 522).

The donor should be of an acceptable age, normally between the ages of 18 and 60 years, and should have no significant medical history. Hypertension and diabetes contraindicate donation. The living donor must be in excellent physical health, highly motivated, with the normal emotional responses necessary to be able to donate their kidney. A psychological evaluation is often recommended. The donor has a blood test to determine ABO compatibility which is essential between donor and recipient.

Then, the donor has a second blood test to determine if genetic similarities exist between donor and recipient, which would make the transplant more likely to work. This is called HLA tissue typing.

Other tests are done to ensure that no health hazards occur by donating a kidney, and to confirm normal renal function with no evidence of disease.

An intravenous pyelogram and voiding cysto-urethrogram are performed to show the kidney and urinary structure and to eliminate vesicoureteric reflex. If it is a requirement that the renal vasculature be visualized, an angiogram is performed. If tests are completely normal, the donor can serve as a low risk donor.

When there is no suitable living related donor available for patients with ESR failure, a cadaveric donor is utilized. The use of a cadaver donor involves transplantation of a kidney from a person who has died from brain trauma, or some other sudden, terminal event that occurs in a previously healthy person. The success rate of cadaveric donors is inferior to that of living related donors. The results are acceptable as the majority of cadaver recipients have long-term rehabilitation free of chronic dialysis therapy.

The blood group of the donor must be compatible with the recipient, and to ensure as much as possible that the potential kidney is compatible, a number of other blood tests are performed.

Due to present methods of preservation of the kidney (up to 72 hours), opportunities are available to carry out tests to evaluate the physiological condition of the cadaveric kidney and for determining histocompatibility between the recipient and donor-even after the kidney is removed from the cadaver.

The cadaveric donor should not exceed 65 years of age. He or she should have no evidence of previous hypertension, diabetes mellitus, previous renal disease, malignancy, generalized viral or bacterial infection and normal BUN creatinine.

After the kidney is procurred, it is preserved under cold conditions (4 - 6°C) to allow return of function of the kidney after revascularization. The kidney is maintained at cold temperatures, either with a saline flush solution or pulsatile perfusion, which allows prolonged storage of the organ (up to 72 hours).

Transporting a cadaveric kidney

If a kidney is going to another centre, the following should accompany the kidney in the transportation container:

Figure 1:
Transportation contents of a cadaveric kidney

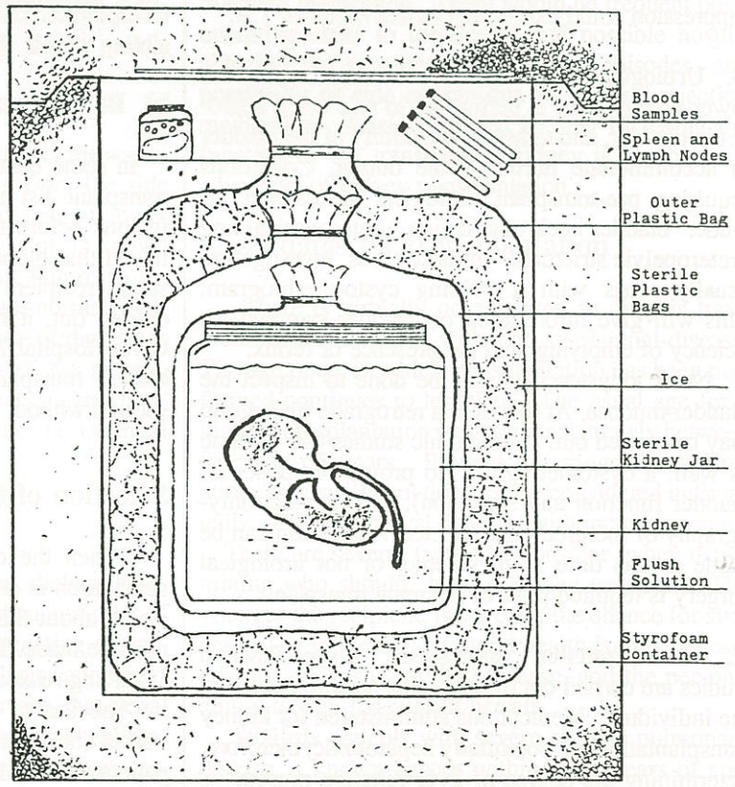
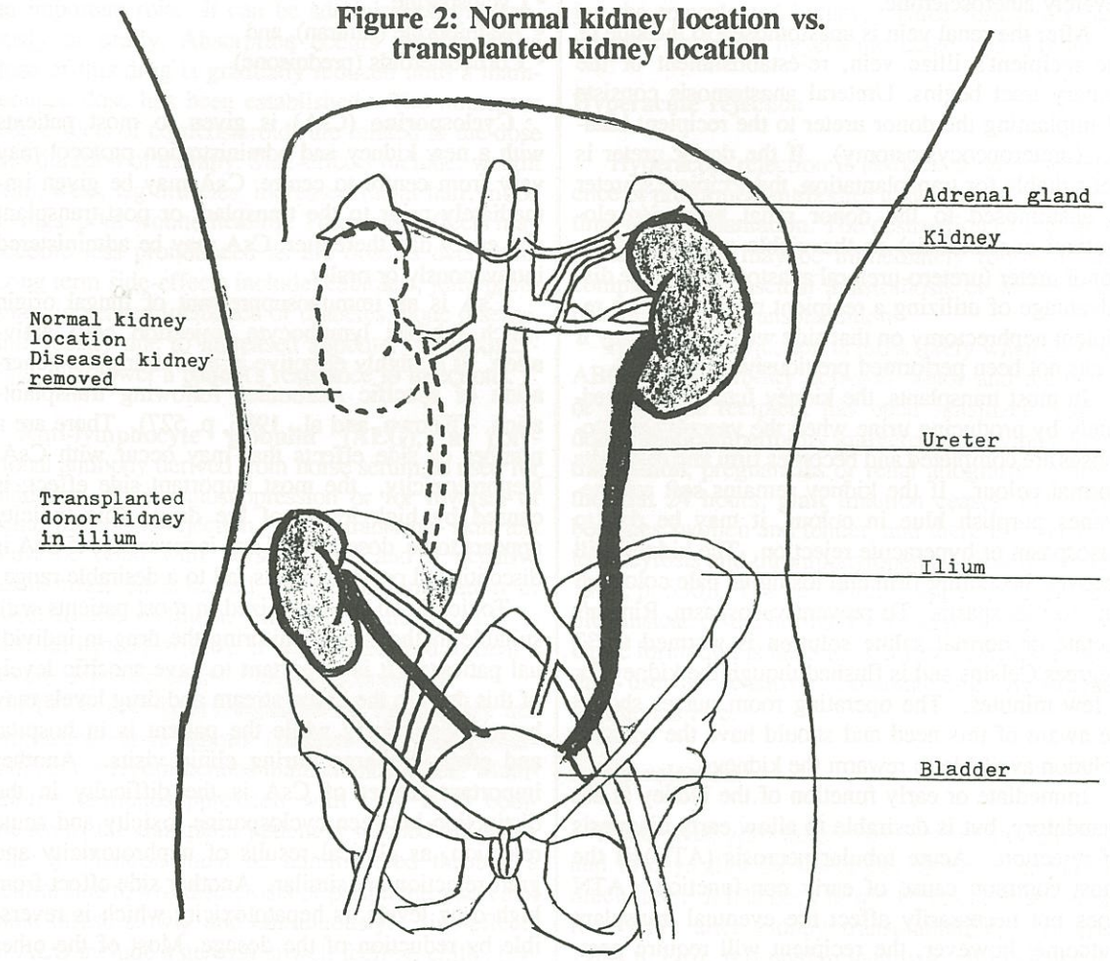


Figure 2: Normal kidney location vs. transplanted kidney location



- blood (4, 10cc tubes)
- lymph nodes (minimum of three in a McCoy's medium or normal saline)
- spleen (some centers include the whole spleen and others may require two samples to be transported in a McCoy's medium or normal saline)

The kidney is placed in a sterile jar containing perfusate and the lid is screwed on. The sterile kidney jar is then placed in two sterile plastic bags and then placed in a third sterile plastic bag. Ice is inserted in the outer plastic bag covering all areas of the inner plastic bags to allow preservation of the kidney. The spleen and several lymph nodes, needed for cross matching, are placed in a sterile jar and blood samples are included in the transportation for testing ABO compatibility between donor and recipient.

The combination of kidney, spleen and lymph nodes, and blood vials are then placed in a styrofoam container which is properly labelled and is then ready for shipping **(Figure 1, preceding page).** Deterioration of the kidney begins once it is removed from the body. Therefore it is essential that transportation be completed as quickly as possible.

Renal transplantation

The site favored for the transplanted kidney is the right iliac fossa (right or the left kidney can be utilized) because it allows for easier access to the recipient blood vessels. The iliac vein on the left side tends to be somewhat deeper, and the sigmoid colon may make the exposure somewhat more difficult. The right or left iliac fossa is selected because there is good blood supply. The implanted kidney will be protected by the hip bone, and the kidney can be easily felt by the physician. It is also the easiest position from which to connect ureter to bladder.

The three anastomoses in renal transplantation are the renal artery, the renal vein, and the ureteral anastomosis. The donor renal artery is anstomosed end-to-end to the hypogastric artery. The renal artery may be anastomosed end-to-side to the iliac artery, in cases where the hypogastric artery is too small or

severely atherosclerotic.

After the renal vein is anastomosed to the side of the recipient's illiac vein, re-establishment of the urinary tract begins. Ureteral anastomosis consists of implanting the donor ureter to the recipient bladder (ureteroneocystostomy). If the donor ureter is not suitable for transplantation, the recipient's ureter is anstomosed to the donor renal pelvis (pyeloureteral anastomosis) or the viable segment of the donor ureter (uretero-ureteral anastomosis). The disadvantage of utilizing a recipient ureter is that a recipient nephrectomy on that side will be necessary if it has not been performed previously. **(Figure 2)**

In most transplants, the kidney functions immediately by producing urine when the vascular anastomoses are completed and becomes firm and regain its normal colour. If the kidney remains soft and becomes purplish blue in colour, it may be due to vasospasm or hyperacute rejection. The kidney will recover, becoming firm and losing its pale colour, if due to vasospasm. To prevent vasospasm, Ringer's lactate or normal saline solution is warmed to 37 degrees Celsius and is flushed though the kidney for a few minutes. The operating room nurses should be aware of this need and should have the warmed solution available to rewarm the kidney.

Immediate or early function of the kidney is not mandatory, but is desirable to allow early diagnosis of rejection. Acute tubular necrosis (ATN) is the most common cause of early non-function. ATN does not necessarily affect the eventual transplant outcome; however, the recipient will require post-transplant dialysis. The frequency of ATN is influenced by over-prolonged or inadequate preservation, and by suffering a prolonged degree of warm ischaemia during retrieval of the donor kidney.

Anti-rejection medication

The chief limiting element of a kidney transplantation is the system's immunologic response that leads to rejection of the transplanted kidney. The recipient's system recognizes the transplanted kidney as a foreign tissue and attempts to destroy it. The survival of the transplanted kidney depends on the methods used to suppress the immunologic reaction. To overcome or minimize the body's defense mechanism, immunosuppressive drugs are given.

There are a number of drugs that can be administerd in order to help prevent rejection of the transplanted kidney. These drugs are sometimes used in combination with one another. The individual must take drugs for the life of the kidney. The commonly administered drugs used to prevent rejection during kidney transplants are as follows:

- Cyclosporine
- Asathioprine (Imuran), and
- Corticosteroids (prednisone)

Cyclosporine (CsA) is given to most patients with a new kidney and administration protocol may vary from centre to centre. CsA may be given immediately prior to the transplant or post-transplant and every day thereafter. CsA may be administered intravenously or orally.

CsA is an immunosuppressant of fungal origin which inhibits lymphocyte (rejection cell) activation. It is highly effective in preventing the generation of specific antibodies following transplantation. (Keown, and al., 1985, p. 527). There are a number of side effects that may occur with CsA. Nephrotoxicity, the most important side effect, is caused by high levels of the drug. This toxicity appears to be dose-related and is reversible if CsA is discontinued or when levels fall to a desirable range.

Toxicity can be minimized in most patients with suitable methods of monitoring the drug in individual patients. It is important to have specific levels of this drug in the blood stream and drug levels may be measured daily while the patient is in hospital and after discharge during clinic visits. Another important aspect of CsA is the difficulty in the distinction between cyclosporine toxicity and acute rejection, as clinical results of nephrotoxicity and graft rejection are similar. Another side effect from high drug levels, is hepatotoxicity which is reversible by reduction of the dosage. Most of the other side effects cause minimal problems in most patients, such as fine hair growth on the upper body, a decreased appetite, increased sex drive, slight gum enlargement and mild tremors.

Asathioprine (Imuran) is an immunosuppressant which inhibits lymphocyte proliferation. It suppresses the production of white blood cells which are active in the process of rejection. It can also suppress the production of other cells formed in the bone marrow such as platelets which are responsible for blood clotting. This bone marrow suppression is an adverse side-effect of this drug.

Another adverse side effect is hepatitis and, occasionally, hair loss. A complete blood cell count may be done daily, when the recipient is in the hospital or during clinic visits upon discharge. To keep blood counts within safe limits, the dose of the drug is adjusted as necessary.

Corticosteroids (Prednisone) is also very effective in suppressing the process of rejection. The powerful anti-inflammatory action of this drug plays an important role. It can be administered intravenously or orally. Absorption occurs rapidly. The dose of this drug is gradually reduced until a maintenance dose has been established. The numerous side-effects of corticosteroids are related to the dose and duration of therapy. Side-effects include: weight pain, weak leg muscles, increased facial hair, mood swings, poor wound healing. These side effects may become less pronounced as the dose is decreased. Long term side-effects include: cataracts, joint problems, increased incidence of diabetes, bone disease, and obesity due to increased appetite. Corticosteroids also lower a patient's resistance to infections.

Anti-lymphocyte globulin (ALG), a polyclonal antibody derived from horse serum, is used for induction of immunosuppression or for reversal of acute transplant rejection. An intradermal skin test must be done with horse serum, and a negative result must be achieved for the administration of ALG to the recipient. In some centres, ALG is utilized instead of CsA. If ALG is utilized to treat a severe rejection crises, CsA is discontinued.

ALG is usually accompanied by the primary immunosuppressive agents (Imuran and Corticosteroids) in the recommended maintenance doses. Maintaining immunosuppression with CsA is to commence as the transplant patient is weaned off ALG. This medication must be administered through a central line to avoid sclerosis of peripheral veins and must infuse slowly and continuously. Side-effects of ALG include a general unwell feeling, chills, fever, joint discomfort, and a decrease in platelets.

All of the medications used in renal transplantation to prevent rejection of the new kidney interfere in some way with the body's normal defense mechanisms. A very delicate balance must be maintained in their administration in order to avoid tipping the scales in the direction of rejection of the kidney on one side and a fatal infection on the other.

Rejection in renal transplantation

Following a kidney transplant, the recipient must be assessed for signs and symptoms of threatened graft rejection: oliguria, edema, fever, increased blood pressure, weight pain, and swelling or tenderness over the graft.

Rejection is the immune reaction of the recipient to foreign tissue cells (antigens) after kidney transplantation, with the production of antibodies. These antibodies are capable of inhibiting metabolism of the cells within the new kidney. Eventually they cause the destruction of these new cells, thus destroying the transplanted kidney. Three forms of rejection are classified: hyperacute, acute, and chronic.

Hyperacute rejection

Hyperacute rejection is associated with the presence of preformed antibodies to donor antigens at the time of transplantation. The destruction of the transplanted kidney may be immediately following the completion of vascular anastomosis or within minutes or hours of transplantation.

Hyperacute rejection is most likely when there is ABO incompatibility between donor and recipient, or when the recipient has been sensitized against donor histocompatibility antigens by previous blood transfusion, pregnancies or renal allografts. Within the first 24 hours, graft function ceases, the organ becomes swollen and tender, and there is fever with leukocytosis and thrombocytopenia. (Keown, et al., 1986, p. 530). The new kidney appears flaccid and blue instead of the normal firm and pink appearance. Urine formation is lacking. Currently, with the routine use of sensitive crossmatching, hyperacute rejection is rare.

Acute rejection

Acute renal graft failure may occur between three and 14 days after the transplant, though it can occur much later. It has been observed to occur as late as five years after kidney transplantation. (Morris, 1984, p. 126). It is predominantly a cell-mediated reaction where sensitized lymphocytes attack foreign tissue. Clinically, a sudden sharp deterioration in renal function occurs, accompanied by fever, pain, swelling, graft tenderness, leukocytosis, and thrombocytopenia.

Chronic rejection

Chronic rejection, generally occurs more than six month post-transplant, and may occur as early as three weeks after renal transplantation. There is gradually a progressive loss of function of the transplanted kidney with less severe symptoms than in the acute form. The progressive deterioration in graft function (over a period of months to years) is accompanied by hypertension and mild proteinuria. Clinically, the kidney does not appear tender or enlarged, and there is no fever leukocytosis, or thrombocytopenia.

Repeated insults from acute rejection episodes, lead to the gradual deterioration and eventual loss of renal graft function. If the kidney remains in situ

with deterioration or complete loss of function, the fibrosis occurs and the kidney becomes shrunken and shrivelled. The possibilities of graft function after renal transplantation may occur as follows:

- the kidney starts functioning immediately, and there are no problems; no rejection;
- the kidney does not work, and will never function, therefore the kidney is removed;
- the kidney undergoes rejection, is treated and begins to function;
- the kidney rejects, is treated and does not begin to function;
- the kidney functions, undergoes rejection, is treated with the administration of specific immunosuppressive agents when rejection occurs; kidney begins to function, then rejects...

Dialysis may be required when the kidney does not function immediately or if the recipient experiences rejection; this does not mean the kidney will not respond to treatment.

When a patient rejects a first renal transplant within the first year, transplant nephrectomy is usually necessary. Rejected foreign tissue left in situ will produce a symptom of fever, allograft tenderness, generalized malaise, cachexia (malnutrition, wasting away), and weight loss. Transplants that undergo chronic rejection, if well tolerated, may be left in place. Retransplantation a second or third time can be attempted if the first transplant fails.

Infectious complications

The success of renal transplantation depends on the achievement of sufficient immunosuppression to avoid rejection; but immunosuppressive agents reduce the body's resistance to infections. The problem of infection contributes substantially to the morbidity and mortality in transplant recipients.

The recipient is constantly monitored for infection post-transplant since the recipient is susceptible to faulty healing and infection due to both immunosuppressive therapy and complications of renal failure. A distinction must be made between infection and rejection since impaired renal function and fever are evidence of both infection and rejection.

Prevention of infection is essential. Therefore the patient should be screened for latent infection before transplantation. Complications of the operation itself are the underlying cause of many early infections of the wound and urinary tract. The use of wound drains is controversial since drainage is an excellent culture medium for bacteria. However, if used, it should be a closed system.

Throughout the surgical technique, sterility is essential to help prevent post-operative infection. The administration of prophylactic antibiotics given at the time of surgery has contributed to a marked decrease in post-transplant infection. Strict reverse isolation may be carried out with health team members wearing masks for the first 48 hours in the intensive care unit. When the recipient returns to the surgical area, protective isolation should be maintained by the use of a private room, and prevention of patient contact with infected individuals.

Septicemia in renal transplant patients is responsible for a significant number of the deaths. Clinical manifestations of septicemia include shaking, chills, fever, tachycardia, tachypnea, and leukocytosis. Daily blood cultures should be performed and antibiotics given immediately if the patient develops a fever.

Conclusion

Successful transplantation depends upon careful preparation of the recipient and donor, the surgical technique, and the optimal manipulation of the immune response to prevent graft rejection. With advances in organ preservation, histocompatibility, immunosuppression, and patient management, there is a higher likelihood of successful renal transplants with reduced patient mortality.

An HLA-identical sibling is the ideal choice for a kidney transplantation. The rejection of a transplanted kidney remains a matter of concern to the patient, the patient's family, and the supporting health care team for many months. The fears of kidney rejection and the complications of immunosuppressive therapy place great psychological stresses on the patient. Kidney transplantation remains the preferred way of treating most patients with end-stage-renal disease. ■

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The next frontier in medicine: bioartificial organs

Using the principles of organ transplantation to replace worn-out or end-stage body parts has been successful - to a degree. The shortage of compatible donor parts from living or cadaveric sources will not keep up with the demand. However, the solution, predict the experts in the field, is to combine organ transplant principles with prosthetic engineering.

"In the next 50 years, medicine will take advantage of what nature has invented and put it together with what we can do by engineering design to produce bioartificial organs," says Dr. Pierre Galletti of Brown University in Dallas, Texas.

Already researchers are attempting to treat diabetes with islet of Langerhans, he said. Other researchers are experimentally growing tissue on artificial meshes or tubes to produce new skin, nerves, esophagi and vascular structures.

While organ transplantation is often successful, donor organs are in short supply, he said. Prostheses such as the artificial heart and other organs are only at the beginning of a long evolution.

Meanwhile, bioartificial organs may allow replacement of a portion of an organ, provided specific hormones and chemicals are used to actually rebuild a lost structure, he said.

The concept of an artificial pancreas has sparked the interest of researchers throughout the world as a possible means of producing insulin for diabetics without daily injections, he said. The concept is to use pancreatic tissue islets encapsulated in a small plastic membrane that has selective permeability.

Four diabetic patients in a Chinese-Canadian research effort have already been given these transplants (plastic membranes and human fetal islets). All were able to reduce their insulin dosage from between 10% and 25%.

The same principle might be used to provide dopamine to Parkinson's patients, Dr. Galletti said.

Besides the use of bioartificial endocrine organs is the use of scaffolds and normal cells to grow tubular structures of the body such as an esophagus or blood vessels. "By directing the body's own healing process, in the future, medical science might be able to regrow structures by forming a scaffold for directed growth... If the body is helped and directed, conceivably certain parts could be generated in an orderly fashion."

He predicted that in the next 35 years, medical science will continue to combine the positive aspects of transplantation with the concept of prosthetic devices to form new artificial organs. "I think the future is in combining the aspects of the two."

Bubonic plague awaits grave diggers

There have been a number of plagues since the beginning of history, and although they are a distant scourge of the past, except for isolated areas, authorities in Ireland have issued a grave warning to archaeologists and, especially, unauthorized diggers at certain Middle Age sites, to be wary of exposure to the medieval aftermath of the largest plague of them all, the Black Death of the 14th century.

It seems that there is a burial ground located in County Tipperary, Ireland. Tresspassers have been known to dig in the area. Historical records indicate that victims of that Plague, which killed 25 million people in Europe alone, were buried there.

"It is not unknown for the Black Death germ (bacillus Yersinia pestis) to survive in graves used during the Great Plague," said a spokesman for the Office of Public Works in Ireland, which is responsible for the burial site. "Archiologists working on similar sites often receive protective injections," the spokesman said.

Feminism and the future of nursing

By Donald Sabo, Ph.D.

The intent of this article is to entice readers to think about nursing and the profession of nursing within the purview of the "feminist paradigm." A paradigm is a way of "seeing or experiencing" the world or any defined aspect therein. The first step toward this end is to explain how the healthcare professions have been shaped by the patriarchal tradition.

Secondly, the impact of patriarchy and sexism on the occupational structure of the health professions will be examined. In this examination, we will look at the ways physicians have historically perceived and treated women. Finally, we will highlight several contemporary nursing issues for which feminist analysis may have particular relevance to the future.

Nursing and patriarchy

The emergence of patriarchy not only originated in our primordial past, it influenced subsequent social evolution as well. It was out of highly patriarchal, agricultural societies that much of today's advanced industrial economies developed. Within the broader scope of social change, therefore, many of the customs, gender expectations, institutions and status differences between the sexes in our own industrial societies came to bear the imprint of the patriarchal past. Today, gross and subtle influences of patriarchy on our contemporary lives remain essential elements of all institutions - including medicine.

In what way is patriarchy evident in the medical professions of today? Male dominance of the medical professions is rooted in history and politics and not patriarchal providence, testosterone levels, or left brain/right brain differences between the sexes. Today, in Canadian medicine, as in the provincial and national governments, men predominate in numbers, power and influence.

The lopsided professional reality in which nurses now function in Canada, strikes feminists as unjust, strange and oppressive. For instance, the vast majority of health care centres are institutions in which women are a majority of the workers, as well as a majority of patients. Women consume the majority of over-the-counter drugs and are given the majority of prescribed drugs. Women also undergo the majority of surgical procedures. Within the same institutions, men make the majority of decisions, derive a majority of the status and prestige, and enjoy the majority of the financial rewards.

Diagnosis and treatment of women

The results of male dominance of medicine are not limited to control of the health professions and institutions. Gender stereotypes and discriminatory practices have powerfully influenced the ways in which the medical profession views and treats patients.

Diagnosis - Analysis of medical writings show that women are often portrayed as being inherently weak, sickly, hypochondriacal, and intellectually incapable of understanding medical matters and their own bodies. These beliefs were especially evident in 19th century medicine's depiction of upper class women. Because of their "innate" frailness and intellectual deficiencies, many medical scientists reasoned that women's activities had to be limited to the moderate demands of motherhood and homemaking. When illness struck, the "ladies" of the upper classes were confined to their beds for weeks or months.

Barbara Ehrenreich and Deidre English (1979) argue that physicians had a financial stake in maintaining this "myth of female frailty" because it helped disqualify women as doctors, and it insured access to a larger number of paying patients.

A content analysis of gynecological textbooks showed that medical stereotypes of women are by no means buried. Diane Scully and Pauline Bart (1981) found that women's traditional role as wife and mother received repeated emphasis and, as one doctor put it, childbirth was thought to be the "crowning fulfillment of a women's sexual adjustment." Female sexuality was described in problematic, masochistic, and infantile terms. An overall paternalistic attitude echoed throughout the texts.

Menopause is another example of how gender stereotypes form medical views of women. Menopause is depicted in very negative terms, as the end of a women's fertile years rather than the beginning of a new life phase. The passing of reproductive capacity is mourned, while the other aspects of women's lives are ignored. In one physician's words, it is the "death of the woman in the woman." Menopause is regarded as another disease, an incurable ill or metabolic deficiency.

Gender stereotypes often interfere with the physician's ability to diagnose a women's ills at all. A Canadian sociologist (Cooperstock, 1971) asked doctors to describe the "typical complaining patient;" 72 per-cent referred to **women** in their statements while only four percent referred to men. She found that male patients were taken more seriously. Men 'describe' symptoms, women 'complain' about them. Women's reports of pain are sometimes seen as exaggerated rather than accurate appraisals of biofeedback.

Treatment - Male dominance in the health care professions and gender stereotypes have also influenced the ways women are treated. Examples of maltreatment range from the regrettable to the perverse. Let me cite a few examples that have received particular attention from feminist scholars and researchers. It is interesting to note, in light of this O.R. nurses' conference, that many of the following examples pertain directly to surgery and the O.R.:

- It is estimated that women have twice as many elective surgeries as men. Elective surgeries account for about 85% of all surgeries.

- North American women were prescribed and sold oral contraceptives in spite of a lack of thorough longitudinal research which attested to their safety. Side effects ranging from headaches to life-threatening conditions have since been documented.

- Today, many young women have been diagnosed with a form of vaginal cancer which resulted from their mother's use of DES durging pregnancy. Indeed, even after the association between DES and vaginal cancer had been discovered, it continued to be prescribed as a "morning after" pill on some American college campuses.

- Radical mastectomy, caesarean section, episiotomy, hysterectomy, etc., are fraught with controversy. In numerous instances these invasive therapies can be equated with surgical maltreatment. The incidence of surgical procedures performed on women is almost double that performed on men (Connors, 1985).

According to several Canadian medical journals while the hysterectomy rate in Canada has declined somewhat in recent years, it is still considered to be the most frequently performed major surgical procedure in North America. One estimate goes so far as to state that one out of every two women will have their uterus removed before they reach the age of sixty-five.

Only 20% of hysterectomies are done because of an indication of cancer, and a small number are being performed because of obstetrical hemorrhaging. Most hysterectomies are done for conditions which are not considered life-threatening and for which alternative therapies may be available.

Often, the risk of death due to surgical complications is higher than the risk associated with the specific disease (e.g., uterine cancer). In the United States, in 1975, of the 787,000 hysterectomies performed, 22% were deemed unnecessary and 1700 women died as a result of complications of their operations. (Connors, 1985).

As a nursing master's student so powerfully stated it, "every day a male surgeon removes parts of a women's body that he has lived his entire life without." This student might have been referring to the obstetrician-gynecologist who holds the view that, "when the patient has completed her family total, hysterectomy should be performed as a prophylactic procedure...Under these circumstances, the uterus becomes a useless, bleeding, symptom-producing, potentially cancer-bearing organ and should therefore be removed." (Schiefelbein, 1980, p.15.).

- Cosmetic surgery is a growing practice in which the formula is, "thin women = fat profits." Writing

on the subject of the continued medicalization of women, Catharine Kohler Riesman (1989) argues that, "like menstruation, women's physical appearance has come under the lens of the medical establishment. Cosmetic surgeons treat everything from facial wrinkles to breast size. The medical beauty business has concentrated with special intensity on the bodily changes associated with women's aging.

Another subject receiving medical scrutiny is weight. "Obesity" is now a **medical** condition. Riessman found a relationship between the production of medical literature on obesity and the growth of the modern women's movement. The number of citations to obesity in *Index Medicus* by year was insignificant in 1960. However, by 1981, more than seven pages of references were found. The number of references referring to surgical remedies went from seven in 1970 to 73 in 1976. I wonder what Hugh Hefner and the medical profession have in common?

Historically, politically and culturally, I believe the growing medical beauty business illustrates how power relations between the sexes are maintained through medical social control. Tragically, it also demonstrates how women, desiring to be thin, often internalize their oppression by asking their doctors for help.

Feminist issues in nursing

Feminist perspectives highlight the gender inequality that exists within the healthcare institutions as well as raising serious questions about the diagnosis and treatment of women. Similarly, a number of issues faced by O.R. nurses seem to gain more critical mass when irradiated by feminist analysis.

1. Teamwork vs. hierarchy

In the operating room physicians are in control. O.R. nurses are powerless in terms of the human experience of the patient. Nurses focus on the environment and this is the only control they have. They exert no control over the process of surgery itself and are facilitators of the physician's goals. There is often minimal caring in the O.R. and this tears up a lot of O.R. nurses. How can more holistic models of care be developed and maintained? Can more co-operative links be made between nurses and physicians, the O.R. and families, and the psychological and physiological aspects of recovery?

2. Caring vs. curing

Should the dichotomy of the care/cure myth be abandoned? Can the traditionally "masculine" technical side of medicine be melded with its traditionally "feminine" caring/nurturing side? And can physicians be expected to restructure the treatment process in order to incorporate the traditionally feminine side of patient care?

3. Status battles: professional or laborer/technician

The nursing profession has come a long way from its "subordinate helpmate" status in the 19th century. Educational achievement and professionalization have bolstered the skills and image of nurses. Yet, there exists an incipient trend to reduce the nursing presence in the O.R. from an informed professional to a lower-level technician. Such administrative moves may be cost-effective, but do they serve women professionals and O.R. nurses? Who will benefit? Nurses, physicians, or patients?

4. Medical mutilation of women

If feminist critics are even partly correct concerning the misdiagnosis and maltreatment of women by physicians, then where does that leave O.R. nurses? What policies should be adopted for patient advocacy? How are O.R. nurses to deal with the spectre of unnecessary surgery? If O.R. nurses buy the assumption that physicians are systematically oppressing women, then they have to begin to analyze their role within the system.

Dr. Gertrude Torres, a prominent nursing theorist and educator, suspects that nurses are often not protective of female patients. Like other victims of oppression, she contends, nurses tend to mimic the values and practices of their oppressors. She wonders if, by their passivity, nurses are not complicit in the medical mutilation of women. If this is the case, then how to respond?

"Power," says Torres, "is often in the eyes of the beholder." Nurses lack power, at least in part, because they assume that they don't have power. The oppressor creates a distorted reality which dehumanizes both the oppressor and the oppressed.

Some critical questions surface. Have nursing organizations developed a policy or taken a stand on cosmetic surgery? Why has there not been more advocacy for women? Have any nursing organizations taken a stand on the medicalization of women? If not, why not?

5. Toxicity in the operating room

A systematic review of the research literature on the potentially harmful effects of anaesthetic gases on reproductive functions in women working in the operating room was compiled by Lenox (1988). Some of the findings are striking.

One 1971 study by Cohen, Belville and Brown found a significantly higher rate of spontaneous abortions among O.R. nurses and female anaesthetists. In contrast, other studies done in the U.K., the U.S. and Scandanavia found no statistically significant results. However, these latter studies have been criticized for their methodological flaws. The bottom research line is that the question of potential harm from exposure to noxious gases in the O.R. has not been settled. The scientific verdict is still out!

But, in spite of this fact, the medical profession continues to encourage nurses to accept the status quo, a status quo that saw a 1977 National Institute of Occupational Safety and Health publication estimate that 214,000 persons were potentially exposed on a daily basis. Moreover, as the literature research by Lenox points out, the majority of these people are nurses.

At issue here is your right as nurses to a safe workplace and clean environment. This is a right guaranteed by the International Declaration of Human Rights. More rigorous research is called for so that answers can be forthcoming. This is not only the right thing to do, it is your right to do it!

6. AIDS in the operating room

The AIDS epidemic, as it continues to grow, has generated tremendous fear and anxiety and "raised difficult issues of medical ethics and social control." (Brown, 1989) How will O.R. nurses respond? Do nurses have the right to know? And, if they do know, what influence should they expect over outcomes? Should patients be tested prior to surgery? How can nurses share decision-making in life and death situations? Policies need to be developed which ensure patient care and a safe O.R. environment for nurses as well.

7. Communication: using the media

Like members of other professions, O.R. nurses need to use modern media to communicate with larger audiences and constituencies. This means that the profession in the 1990's needs to think more about mass education and public relations.

Strategizing also needs to be done on how to present to the Canadian public accurate images of professsional and labour issues within nursing. The media has not done a very good job in accurately portraying the nursing profession. Gender stereotypes of nurses abound, ranging from man-chasing vampires to overly dependent and dutiful helpmates for middle-aged male physicians.

A recent controversy in this regard revolves around the TV show "Nightingales." This prime-time show (not shown in Canada) continuously shows nursing students in varying states of semi-nudity, their lives revolving more around relationships with men than professional aspirations.

The American Nurses Association vigorously protested this distorted portrayal of women and the nursing profession with good results. Several of the show's major corporate sponsors, including Coca Cola, severed their involvement with the show.

Professional organizations and protests can make a difference. As nurses become better organized and more knowledgeable about the workings of the mass media, they will be in a better position to transform the media into vehicles for promoting rather than debasing the profession.

Feminism: a theme for nursing unity

This address is an invitation for you as O.R. nurses to think about the future of nursing from within a feminist framework, to ponder what may be old issues in new ways. I have tried to illustrate how feminist analysis can expand understanding of issues and opportunities within the operating room and the healthcare delivery system at large.

The door to feminist analysis has too often and for too long been equated with and limited to the work of women's studies and women liberationists. In fact, the feminist paradigm is an emerging innovation in scientific thought such as those generated by Copernicus in astronomy or Einstein in physics. The feminist paradigm has its own unique set of concepts, methods, and assumptions about its subject matter which allow both sexes to rethink all aspects of human existence.

What kinds of general strategies for change flow out of the feminist paradigm? The first strategy that comes to mind is sisterhood. United you stand proud; divided you fall prey.

I am not recommending that "sisterhood" become a militant bannerhead for the exclusion of men. I would not be making this address if this were so! I am, however, asserting that feminist values and feminist visions of health and illness and care offer some extremely worthwhile alternatives to the patriarchal values and practices that have typified traditional medicine. Both females and males can embrace and benefit from these values.

A second general strategy which comes to mind is consciousness raising and education on women's

health issues. As Cheryl Ruzek (1986) writes, "...it is crucial for women to come together and share their personal experiences of health and illness... These groups must also incorporate a political analysis, and point out the ways in which interest groups ranging from medical specialties to drug companies are not to be relied upon to act in the best interests of women." (p.569) Operating room nurses, as a professional nursing specialty, would do well to follow the same prescription.

Finally, I leave it to you, the true experts in the field of O.R. nursing, to ascertain the relevance of feminist analysis to your profession, to adopt and modify the feminst paradigm, to identify and analyze the key issues, and to plot the directions for future change. The challenge is yours. Remember, social change is seldom measured by days or months or even years, but rather in terms of life-times. In the words of the 19th century feminist, Susan B. Anthony, "the road is long, but failure is impossible." ■

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About the author

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Letter to the editor...

Lives lost because medical professions are locked into hierarchical roles

In a "Letters to the Editor" column of the Toronto Star recently, a nurse, commenting on the findings emanating from the investigation into the cause of the Air Ontario crash in Northern Ontario, had these remarks to say about communication and the way people work in the medical profession:

"Regarding the Dryden air crash inquiry: when people board an aircraft, they believe they are trusting their lives to the latest in science and technology. What a shock to discover that they are instead entrusting themselves to a medieval thought-pattern based on hierarchical dominance-submission roles, and on a sense of honour that used to result in senseless duals."

"The stewardess looked at the ice on the wings (of the aircraft that eventually crashed) and buckled herself resignedly in her seat because pilots, we have heard, 'don't take kindly to being given suggestions on how to do their jobs by stewardesses'..."

"A guest pilot also saw the ice on the wings and settled in beside his family, risking their lives rather than insult his colleague in charge of the plane by questioning his judgement - even though he could probably see what the pilot could not."

"As a nurse, I know that this happens in another profession every day. Nurses bend in circles, playing mind games, in order to give life-saving suggestions without seeming to tell doctors what to do - which might arouse their ire."

"And medical colleagues, even though they may see what the doctor who "owns" the case cannot, will not give unrequested advice or criticism. Lives are lost because professionals are locked in hierarchical roles, especially male-female, dominance-submission roles."

"The remedy? Professionals who treat each other as equals, whether male or female, whether paid less or paid more, who listen to and respect each other's knowledge and opinions, and who work collaboratively, not defensively. These are goals the women's movement has always held. Other societies, males and females together, have also worked this way. It is not an impossible goal to get beyond the present macho way that our professions operate. As the guest pilot said on the (investigation) stand, 'Something has to be done about the way people communicate and work together'..."

Anna Scott, R.N., Williamsford, Ontario

Inhaling laser vapors place users at risk of contracting HPV warts

Since vapor may be inhaled, the development of human papillomavirus (HPV) infection (warts) of the upper airway represents an important theoretical consideration for CO_2 laser users, nurses and laser technicians.

Dr. William Sawchuk of the Laboratory of Cellular Oncology, U.S. National Cancer Institute, said that the treatment of warts carries this major risk because certain HPV types that primarily infect the genital region also infect other mucous membranes. "Some of these genital HPV types," he said, "have also been found in a majority of cervical carcinomas, as well as in oral and laryngeal malignancies."

Reporting in the Journal of the *American Academy of Dermatology*, Dr. Sawchuk said that patients are at a reduced risk from the dense laser plume because they've already been exposed to the virus.

Although gloves and shoes protect the extremities from the vapor-borne virus, "...our results strongly suggest that the potential risk from inhalation may be markedly reduced by wearing a surgical mask."

He mentioned that, in repeat experiments, all detectable papillomavirus material was trapped by the mask, "but for maximal protection, the mask should fit so that airflow around the edges is minimized."

Dr. Sawchuk pointed out that in studies comparing lasers and electrocoagulation methods, more virus from the same wart was present in the laser-derived vapor than the electrocoagulated vapor.

Windsor-area OR nurses anticipating record attendance at 4th annual meet

Windsor and District Operating Room Nurses Association will be holding its 4th Annual Conference on Friday and Saturday, February 16 and 17, 1990. As with previous conferences, the Hilton International Hotel and the adjacent Cleary Auditorium will be the locale. Organizers are confident that record attendance figures will be set for both delegates and participating exhibitors.

Besides the educational/clinical program, there will be an exposition of medical/surgical products. The Saturday luncheon will feature a walk-thru fashion show by Lamonde Fashions.

The theme of the conference is "Changing the Image of the Operating Room Nurse." Conference organizers have scheduled guest speakers and arranged an agenda in keeping with this theme. Guest speakers for the gathering include:

- Carol Lenox, Mississauga Hospital - "The many Jobs of the Operating Room Nurse."
- Gerry Richardson, Canada Life Insurance Company - "Financial Management."
- Dr. Laurie Campbell "Homeopathic Medicine and Laser Technology."
- Carole Bertuzzi-Luciani - "Humour in the Workplace."

Last year, over 100 operating room nurses and approximately 35 exhibitors gathered for the annual event, which is held in late February. For registration or more information, contact:

Darlene Beaudet,
President,
Windsor & District Operating Room Nurses Association,
C/O
Windsor Western Hospital,
Operating Room,
1453 Prince Road,
Windsor, Ontario N9C 3Z4
(519) 257-5178.

ARTHROSCOPY PROGRAM FOR O.R. NURSES

Orthopaedic and Arthritic Hospital,
in conjunction with
Zimmer of Canada Limited,
is pleased to offer a series of two-day arthroscopy courses for operating room nurses.

Course Director:
Robert W. Jackson, M.D., M.S., F.R.C.S. (C)
Course Instructor:
Marlene Muir, R.N.

Program Highlights...
- Peri-operative management of patients undergoing arthroscopic surgery
- Anaesthetic techniques
- What to purchase
- Care, handling and sterilization of instrumentation and equipment
- Normal/abnormal knee pathology
- Skills lab - models and videos
- Trouble shooting the video system
- Observation of O.R. arthroscopy procedures

Location:
Orthopaedic and Arthritic Hospital,
43 Wellesley St. East
Toronto, Ontario
M4Y 1H1

Course Dates:
November 20-21
December 11-12

Course Fee:
$150.00 per nurse - includes breakfast, lunch, and dinner on evening one. Does not include hotel.

Registration:
To register, phone or write:
Bette Hales,
Zimmer of Canada Limited,
2323 Argentia Road,
Mississauga, Ont. L5N 5N3
(416) 858-8588

ORTHOPAEDIC AND ARTHRITIC HOSPITAL

A "thimble-full" of precaution can prevent the lethal effects of a surgical glove puncture

According to the statistics, surgeons puncture their gloves in nearly half of all operations. Over one-third of these punctures involve the index finger on the surgeon's non-dominant hand.

These statistics were the rationale for three surgeons from St. Stephen's Hospital in London, England, recommending the wearing of a thimble on the left index finger in between two pairs of gloves. The thimbles afford protection against stab wounds while operating on highly infectious patients.

High impact agenda planned for delegates attending national O.R. nurses conference in Toronto

One of the guidelines behind the selection of program topics for the 11th National Operating Room Nurses Conference scheduled for Toronto next April is the current issues that are impacting on operating room nurses in the workplace.

Audrey MacDonald, publicity convenor for the national conference that is to take place next April 2 - 6 at the Harbour Castle Westin Hotel and Convention Centre in downtown Toronto, mentioned that the program planning commmitte had been scrutinizing the numerous topics that are currently impacting on operating room nurses today. "We've made some of our selections already. All our topics thus far reflect current issues which are of concern to nurses in today's workplace."

To date, 75% of the approximately 150 booth spaces available have been sold. Prospective exhibitors are advised that booth allocation is provided on a "first come, first serve basis." Medical/surgical manufacturers and/or distributors are encouraged to reserve their exhibit space as soon as possible.

Delegates pre-registering are asked to contact:

Audrey MacDonald, Operating Room,
Mount Sinai Hospital
600 University Avenue,
Toronto, Ontario M5G 1X5

Prospective exhibitors are asked to contact:

Valerie Shirreff, Operating Room,
Mississauga Hospital,
Mississauga, Ontario L5B 1B8

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