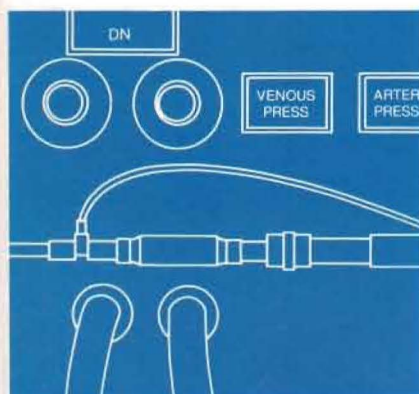
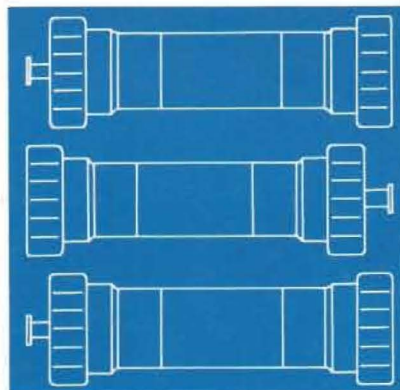
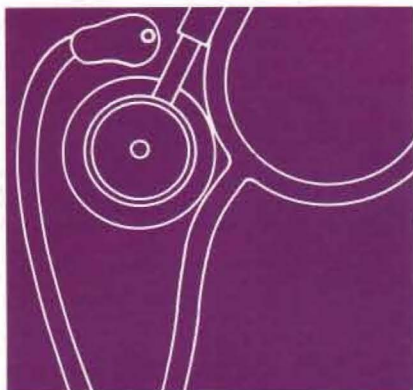
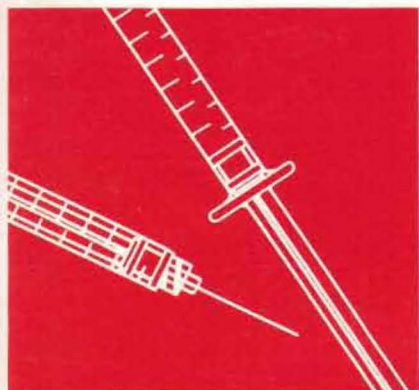
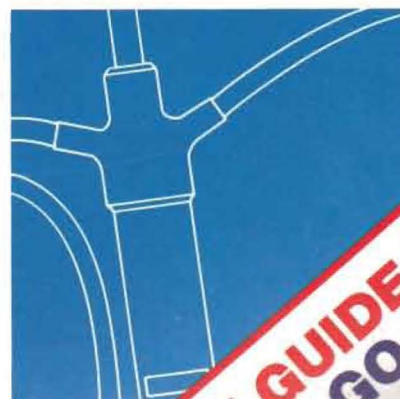
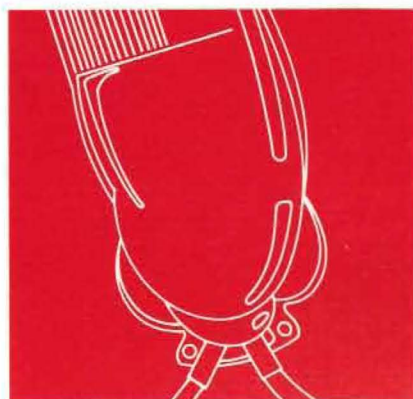
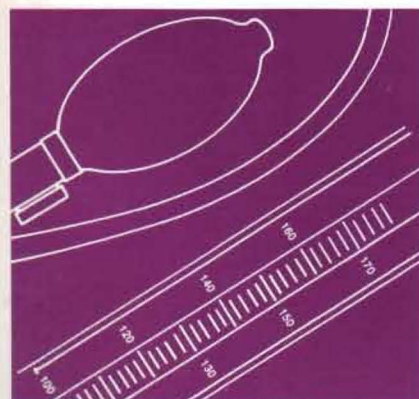


# Nephrology Nurse

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## 1982 Dialysis Products Buyers' Guide



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- The Living Related Donor... Pre-Operative Considerations
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# The Living Related Renal Donor: Pre-Operative Considerations

By Patricia Houlihan, B.N., M.Sc.

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## Abstract

The use of living related kidney donors is currently on the increase in North America owing to its overwhelming success when compared with cadaveric transplants. Because of this, nurses and physicians working with patients with end-stage renal disease need to become aware of the impor-

tance of assessment of the potential donor prior to the final decision to remove a healthy organ from a healthy individual. Both physical and psychological considerations are important in the understanding of the decision to donate as well as the long-term outcomes.

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**R**enal transplantation has become an accepted form of treatment for patients with end-stage renal disease, offering the successful transplant recipient virtually complete physical rehabilitation. Obtaining suitable and adequate numbers of organs for transplantation has become the subject of discussion in a number of milieus including professional literature as well as movies, television and books for the lay public. There seems, from time to time, to be an almost macabre interest on the part of the general public in the whole notion of "spare parts."

For many patients to whom life on dialysis is unacceptable in the long term, transplantation offers the only other viable alternative. The problem of finding a suitable organ for an individual patient is a challenge for both health professionals responsible for the care of that patient and, to an ever growing extent, for the patient himself.



### About the Author

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At issue currently, is the debate among some professionals regarding the efficacy of cadaveric transplantation versus live donor transplantation. On the one hand, live donor grafts currently enjoy a considerably greater success rate than those from cadaveric donors, owing to certain immunologic incompatibilities. On the other hand, although risk to the live donor is estimated to be about 0.06%, some authors feel that this risk should be avoided by increasing the availability of cadaveric organs.<sup>1</sup> Others feel that, due to the success of live donor grafts, some day the use of cadaveric organs may become a thing of the past.<sup>2</sup>

However, because of the current trend toward increasing the numbers of live donor grafts, nurses and physicians in transplant units must give serious consideration to psychological and physical assessment of the organ donor during the pre-operative period. The expectation would then be to improve long-term outcomes for both the recipient as well as the donor.

### Selection of a Donor

There are two distinct aspects of donor selection. The first are physical and immunologic considerations. The second are psychoemotional considerations including family dynamics and the individual potential donor. These two sets of variables, although distinct, are interconnected, and together have considerable impact on the decision to remove a healthy organ from a healthy individual.

The search for a suitable donor within a patient's family begins with the suggestion of this alternative to

the patient and her/his family. At this point, the family requires as much information as possible about the alternatives of live donor versus cadaveric transplant. Using a framework such as that described in Figure 1, can be a useful teaching tool when employed by both the physician and the nurses caring for the patient in the dialysis program. Risks and benefits must be explained at each point along the way.

If, at this time, the patient refuses, the reasons for this refusal should be explored. Explanation of the very preliminary nature of the tissue-typing should be reviewed. If family members are willing to be tissue-typed, then the first step in the assessment process can begin.

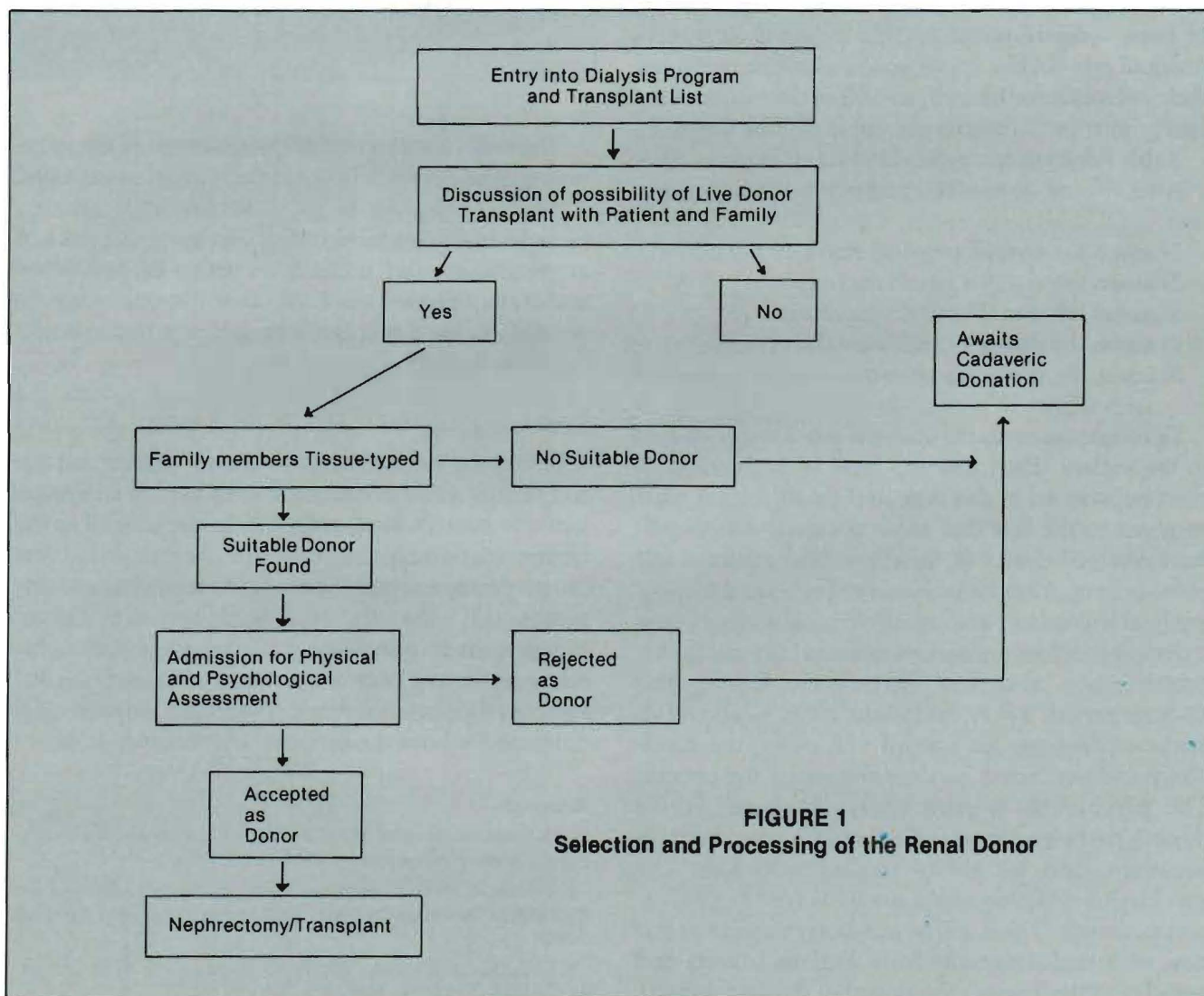
The immunologic assessment consists of a blood test with three steps. The first step is ABO typing. Family members whose blood type is incompatible with that of the recipient are immediately discounted as potential donors.

The second step of the immunologic assessment is the tissue-typing of the major histocompatibility complex. The antigens within an individual's genetic make-up, to a great extent, determine the acceptance or rejection of a graft from another person.

Step three involves the actual matching of the recipient with the potential donor. Peripheral blood lymphocytes are used in this test which is referred to as the "cross-match." A negative cross-match in this test refers to compatibility indicating that the recipient does not demonstrate preformed antibodies against the donor lymphocytes. Thus a positive cross-match indicates an unsuitable donor.

Psychological considerations and family dynamics become of greatest importance after the completion of the immunologic work-up. If there is but one suitable tissue-match within the immediate family, the issue becomes a single decision that must be made by that individual to make himself available for admission to

(Continued)



**FIGURE 1**  
Selection and Processing of the Renal Donor



hospital for pre-operative assessment. The decision is frequently far more complicated in the mind of the donor than it may appear to on-lookers. If there is more than one suitable tissue match within the family, then the search must begin.

Reasons for wishing to donate an organ to a family member are many and varied. There may be a desire to pay off an old debt to another family member,<sup>3</sup> or a parent may feel a parental obligation to donate an organ to a child. Whatever the reason, the decision should be made without undue pressure, however covert, from the patient and the family, or from members of the health team who desire the best possible outcome for the patient.

### The Pre-Operative Assessment

When a suitable donor is found, arrangements are made for admission of the potential donor to the Transplant Unit for a pre-operative work-up. Nurses caring for this patient must bear two things in mind: 1) this is a perfectly well patient undergoing a number of tests, some of which will be invasive; 2) this individual is probably apprehensive about the tests and their outcomes for himself, as well as the health of the family member to whom the organ will be donated.

Table I delineates a typical in-hospital work-up for a living-related donor. The objectives of the work-up are:

- 1) assess the overall physical status of the donor
- 2) assess the donor's renal function
- 3) assess the donor's renal vasculature
- 4) assess the donor's cardiovascular system
- 5) assess the donor's motivation and ability to deal with crises

Upon admission to the unit, the process is explained to the patient. Each patient's level of understanding must be assessed at this time and consideration must be given to the fact that some potential donors will have received clearer explanations than others at this point in time. After initial blood collections, urines for analysis and culture and sensitivity are obtained, then 2 twenty-four hour urines are collected for creatinine, protein, uric acid and electrolytes. During this 48-hour period, a P.A. and lateral chest X-ray and an electrocardiogram are carried out. Also, the cardiology and psychiatry services will assess the patient. The psychiatrist is particularly interested in the donor's past experiences in dealing with personal crisis situations, and his ability to deal with loss. The psychiatrist will also assess the basis for the motivation to donate. There will be particular concern at this time with undue pressure from external sources and negative attitudes with the potential donor's spouse.

**TABLE I**  
**Typical Pre-Operative Assessment**  
**of the Living Related Donor**

1. History and Physical
2. Urinalysis
3. Urine for Culture and Sensitivity
4. 24-Hour Urine X2 for Creatinine, Protein, Uric Acid and Electrolytes
5. Blood Tests:
  - SMAC
  - Serum Electrolytes
  - Complete Blood Count and WBC
  - Differential
  - PT, PTT and Platelet Count a.c. and 2 Hour p.c. Glucose
6. P.A. and Lateral Chest X-ray
7. 12-Lead Electrocardiogram
8. Intravenous Pyelogram
9. Renal Arteriogram
10. Assessment by:
  - Cardiologist
  - Psychiatrist

The final two tests to be performed will be the intravenous pyelogram to further assess renal function and a renal arteriogram to visualize the renal arteries. Because of the invasive nature and potential risks of arteriography, this is the final test to be performed and is only carried out if all other investigations are normal. As the donor is discharged, a tentative booking is made for the transplant.

### Conclusion

Emotional ties between the kidney donor and the recipient of a live donor graft seem to play an important role both in the decision to donate as well as the future relationship between the recipient and the donor postoperatively. Although somewhat controversial still, the use of live donors for kidney transplantation is increasing. Thorough and thoughtful assessment of both the physical and psychological status of the potential donor should aid in a successful outcome for both the recipient and the donor. ■

### References

1. Kaufman, Howard H. *et al.* Kidney Donation: Needs and Possibilities. *Neurosurgery*, 1979, 5, 237-244.
2. Fellner, Carl H. Selection of Living Kidney Donors and the Problem of Informed Consent. *Seminars in Psychiatry*, 1971, 3, 79-85.
3. Schumann, Delores. The Renal Donor. *American Journal of Nursing*, 1974, 74, 105-110.

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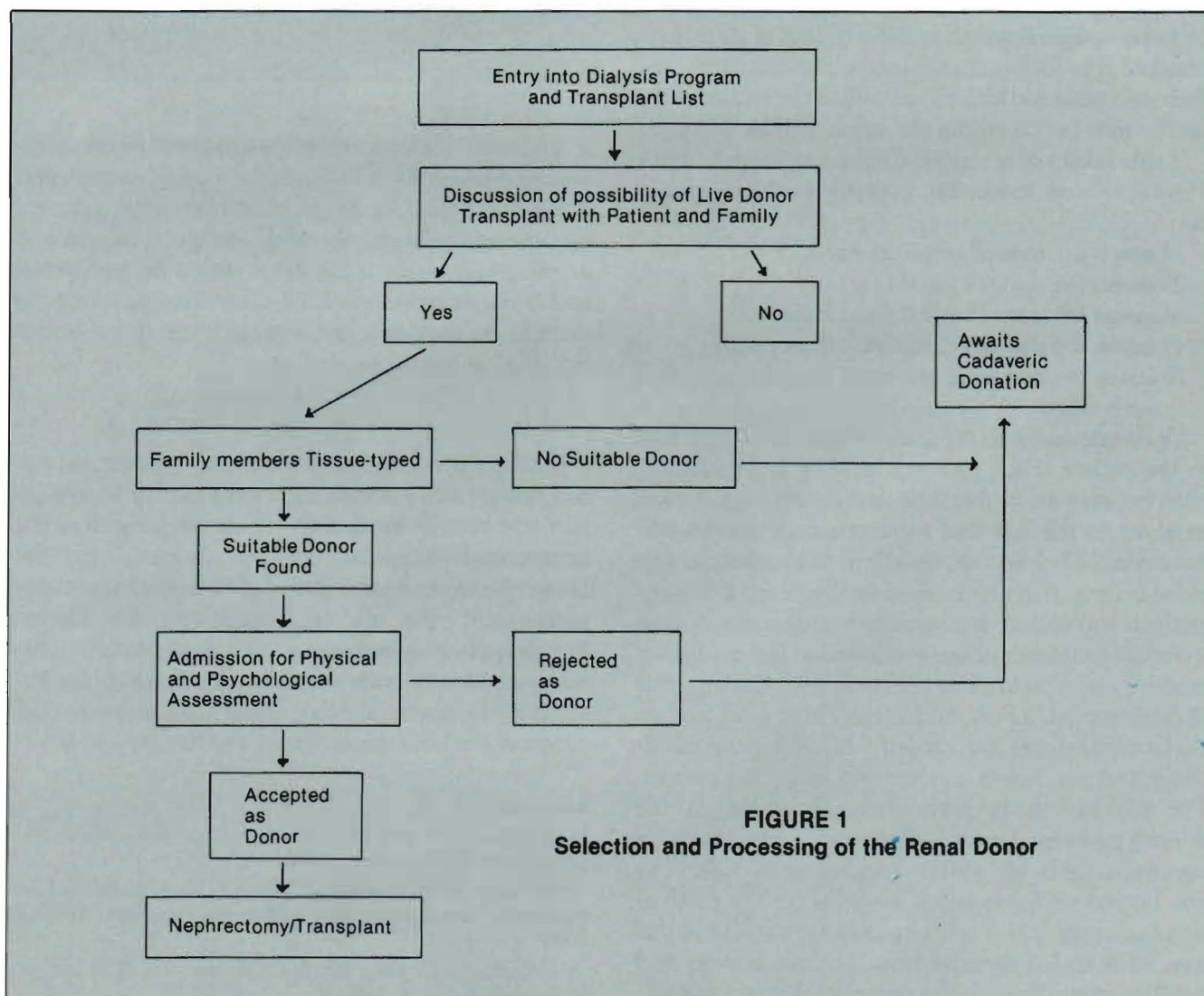
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