



## Guest Editor

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# The Technician's Role in Organ Preservation for Transplantation

The success of cadaveric kidney transplantation has reached a distressing plateau during the past five years. Although this observation is frustrating there is also realistic cause for optimism concerning the future. Development of innovative approaches to immunosuppression have reached a period of dormancy. In spite of this lack of significant change in immunosuppression we might expect to see improved success as the result of better patient selection, particularly as regards age, the identification of "immunologic responders" versus "non-responders", an accelerated method of performing mixed-lymphocyte cultures, and better understanding of the significance of tissue typing. Needless to say, an adequate supply of viable, well preserved and properly harvested cadaver organs is essential to successful transplantation. Organ availability represents the critical bottleneck which hopefully can be overcome by increased efforts toward public and physician education. When this becomes true and the supply of cadaver organs increases to the point of equaling the demand it will be incumbent to increase our preservation capabilities. Not only will it become necessary to preserve more kidneys for longer periods of time but it will be of particular importance to transport these valuable organs to locations where the selected recipient resides.

The thesis I would like to explore is the role of the perfusion technician in this utopian setting. Although it is premature to suggest the perfusion technician's qualifications and responsibilities it is obvious that they extend beyond simply preparing the perfusion equipment and fluid. It is already customary in perfusion laboratories to assign the technician the responsibility for maintenance and record keeping of the laboratory, trouble shooting of equipment, transportation of organs and, in collaboration with the physician, evaluating the quality and viability of the preserved organ.

Additional responsibilities will obviously vary within transplant centers and with the expertise of the individual technicians. It does not appear unreasonable to involve the technician more intimately at the interface of the entire transplant procedure as has been done in our own and other programs. Examples include (but are not limited to) input into donor evaluation and preparation, assistance in the operating theatre either directly or indirectly, preparation of the organ for pulsatile perfusion and ascertaining that suitable specimens of tissue are available for tissue typing. Depending on availability of time the technician can render valuable help to physicians and nurses in preparation of the recipient for surgery and, frequently, by direct assistance during the actual transplant operation.

Since organ transplantation is usually done within a university complex there will frequently be ample opportunities for research participation. The development of new techniques for prolonging and predicting organ viability, simplification and improvement of existing perfusion fluids and alterations in physiology and pathology of organs preserved *ex vivo* are but a few examples demanding investigative efforts.

It is obvious that the perfusion technician's role might be expanded to one of demanding proportions. In addition, it appears obvious to me that involvement of the perfusion technician will be essential for increasing the number and quality of cadaver transplants. It therefore seems logical to suggest that the perfusion technician could benefit greatly through affiliation with a technician-oriented organization such as the American Society of Extra-Corporeal Technology. The established Journal and annual meeting of the Society offer a forum for communication of scientific and technical information which is currently unavailable in the field of organ preservation. Technicians would have the opportunity for developing standards for training, proficiency and responsibility, and establishing a testing mechanism directed to this field of expertise. Finally, guidelines could be established along with an information base which could serve as a model for newly established centers and for centers undertaking preservation of other organs.

It appears to me that all of us,—technicians, nurses, physicians and most importantly patients—would benefit from such an affiliation.