At-a-Glance

- **Proposal to Establish Qualifications for Director of Liver Transplant Anesthesia in the Bylaws**

- **Affected Bylaw:** UNOS Bylaws, Appendix B, Attachment 1 (Designated Transplant Program Criteria), Section XIII (Transplant Programs), subsection D,3 (Liver Transplantation).

- **Membership and Professional Standards Committee**

- This proposal would require liver transplant programs to designate a director of liver transplant anesthesia with expertise in the area of peri-operative care of liver transplant patients who could serve as an advisor to other members of the team.

  The new bylaw language will:
  - Designate the appropriate board certification for the position
  - Delineate certain administrative and clinical responsibilities that should be handled by the Director; and
  - Determine the minimum qualifications needed for the position.

- **Affected groups**
  Transplant Anesthesiologists
  Transplant Administrators
  Transplant Physicians/Surgeons
  Transplant Program Directors

- **Specific requests for comment**
  Does this proposal clearly delineate the following?
  - That an experienced liver transplant anesthesia director must be named by each program; and
  - That the designated director must be board certified in Anesthesiology or its foreign equivalent.

  Are the following recommended criteria reasonable?
  - key areas of administrative and clinical responsibilities for directors;
  - minimum training and experience requirements; and
  - minimum continuing medical education credits.

  Do the proposed requirements reflect current practice at your center?

  Should similar requirements be developed for othertransplant programs?

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- Designate the appropriate board certification for the position;
- delineate certain administrative and clinical responsibilities that should be handled by the director; and
- determine the minimum qualifications needed for the position.

Background and Significance of the Proposal:

Presently, the bylaws only require that transplant programs provide evidence that experts in the field of anesthesiology are involved with the program. The bylaws do not provide a description of the qualifications this expert must possess or describe their expected level of involvement.

The MPSC first began discussing the development of specific requirements for transplant anesthesiologists after the issue was referred to it in 1999 by the Liver and Intestinal Organ Transplantation Committee. The committee agreed then that it was not the right time to develop minimal requirements for liver transplant anesthesiologists as proposed in the initial referral letter. The MPSC did however agree that the best approach was to amend the transplant program application to include an anesthesia related question.

In 2004, the Committee added an anesthesiologist to its roster as a representative of the American Society of Anesthesiology (ASA) committee which was formed to address the qualifications for liver transplant program anesthesiologists. This ASA committee consists of anesthesiologists from across the nation with representation from all specialties of organ transplantation. That same year the ASA submitted a paper entitled “Anesthesia Expertise and Liver Transplantation” to the MPSC for its input. The ASA and the MPSC had an ongoing dialog for the next two years and in 2006 they agreed that the development of qualifications for the directors would need to be deferred until outcome data were available. The MPSC agreed that the ASA should continue to develop its recommendations and keep the MPSC apprised of its work. In the meantime, the OPTN/UNOS membership applications for liver transplant programs were further amended in 2008 to include additional questions regarding anesthesia support.

In March 2009, a representatve from this committee presented further information to the Liver and Intestinal Organ Transplantation Committee, including the ongoing work of the Liver Transplant Anesthesia Consortium (LTrAC). This consortium collects and catalogues information on anesthesia practices. Three surveys had been conducted or were ongoing. These surveys showed that (1) most liver transplant anesthesiologists are not part of an integrated transplant team, and (2) anesthesiologists recognize the importance of additional training.

In August 2009 the MPSC received a memorandum from the ASA, which suggested specific qualifications for the directors of liver transplant anesthesia. This recommendation was based on peer reviewed papers that showed that liver transplant programs have better outcomes when they utilize an anesthesiologist experienced in liver transplantation. The MPSC used the recommendations provided by the ASA as the basis for the proposal shown in this document. The executive committee of the ASTS also considered a draft of the proposal and made suggestions regarding which items might be mandatory versus suggested qualifications.

The Committee contemplated whether the requirements should be made mandatory and the director role treated the same as a primary transplant surgeon, physician or laboratory director. After discussing the resources required (i.e. programming, monitoring, etc), it was agreed that the requirements would be initially proposed as recommendations that would provide guidance to the liver transplant programs. The Committee agreed that it may consider proposing that the director qualifications become required in the future and that it would consider similar proposals for cardiothoracic organs if the community was in support.

Supporting Evidence and/or Modeling:

Among other responsibilities, anesthesiologists are closely involved in the preoperative evaluation of surgical patients. In patients undergoing liver transplantation, anesthesiologists perform invasive line placements, dictate transfusion pattern, adminster vasoactive substance to maintain hemodynamic stability, manage coagulopathy, monitor electrolytes including glucose, determine disposition of patients (i.e. extubation at the end of surgery). In liver transplantation, evidence recently emerged that experience and in-depth knowledge of perioperative care of liver transplantation does impact the care of these patients. Most studies, some of which are listed below, looked at one particular variable (i.e. early extubation, transfusion pattern, management of coagulopathy).

- A multicenter evaluation of safety of early extubation in liver transplant recipients. Liver Transpl. 2007 Nov;13(11):1557-63.
- Fast track in liver transplantation: 5 years' experience. Eur J Anaesthesiol. 2005 Aug;22(8):584-90
- Reduced use of intensive care after liver transplantation: influence of early extubation. Liver Transpl. 2002 Aug;8(8):682-7.
- Reduced use of intensive care after liver transplantation: influence of early extubation.Liver Transpl. 2002 Aug;8(8):676-81.
- Coagulation defects do not predict blood product requirements during liver transplantation. Transplantation. 2008 Apr 15;85(7):956-62
- Effect of low central venous pressure and phlebotomy on blood product transfusion requirements during liver transplantations. Liver Transpl. 2006 Jan;12(1):117-23.

However, in 2008, Zoltan Hevesi, MD, director of anesthesiology transplantation services at the University of Wisconsin, in Madison, presented the results of a study at the Joint International Congress of ILTS, ELITA & LICAGE. This study suggested that the use of a dedicated anesthesia team reduces the need for blood transfusions and mechanical ventilation during and after surgery and is associated with decreases in the time patients spend in the operating room, in intensive care, and in the hospital.
Liver Transpl. 2009 May;15(5):460-5.

Expected Impact on Program Goals, Strategic Plan, and Adherence to OPTN Final Rule:

HHS Program Goals	*Strategic Plan Goals*
Patient Safety	The OPTN will promote safe, high-quality care for transplant candidates, transplant recipients, and living donors
Operational Effectiveness	The OPTN will identify process and system improvements that best support critical network functions, and work to disseminate them to all members who could benefit

Final Rule

§121.9 Designated transplant program requirements.
(a) To receive organs for transplantation, a transplant program in a hospital that is a member of the OPTN shall abide by these rules and shall:

(1) Be a transplant program approved by the Secretary for reimbursement under Medicare; or
(2) Be an organ transplant program which has adequate resources to provide transplant services to its patients and agrees promptly to notify the OPTN and patients awaiting transplants if it becomes inactive and which:

(i) Has letters of agreement or contracts with an OPO;
(ii) Has on site a transplant surgeon qualified in accordance with policies developed under §121.4;
(iii) Has on site a transplant physician qualified in accordance with policies developed under §121.4;
(iv) Has available operating and recovery room resources, intensive care resources and surgical beds and transplant program personnel;
(v) Shows evidence of collaborative involvement with experts in the fields of radiology, infectious disease, pathology, immunology, anesthesiology, physical therapy and rehabilitation medicine, histocompatibility, and immunogenetics and, as appropriate, hepatology, pediatrics, nephrology with dialysis capability, and pulmonary medicine with respiratory therapy support;
(vi) Has immediate access to microbiology, clinical chemistry, histocompatibility testing, radiology, and blood banking services, as well as the capacity to monitor treatment with immunosuppressive drugs; and
(vii) Makes available psychiatric and social support services for transplant candidates, transplant recipients, and their families; or

Plan for Evaluating the Proposal:

This proposal is guided by the belief that liver transplant programs have better outcomes when they utilize an anesthesiologist experienced in liver transplantation.

As outlined in the *Background and Significance* section of this document, the requirements would be initially proposed as a combination of both requirements and recommendations that would

provide guidance to the liver transplant programs. The only elements that would be mandatory would be:

- submitting the name of the director and evidence that shows that they have expertise in the area of peri-operative care of liver transplant patients and can serve as an advisor to other members of the team; and
- Certification by the American Board of Anesthesiology or its foreign equivalent.

The OPTN/UNOS **does not propose** mandating that each director of liver transplant anesthesiology meet the administrative or clinical responsibilities or the qualifications sections of the proposed requirements in total but suggests that each program should endeavor to meet these requirements at a minimum.

Upon implementation each existing liver transplant program will be asked to provide the name and credentials of a proposed director of transplant anesthesiology. From this process, a baseline for current practices can be established. New program applications already include questions pertaining to the anesthesiology support in the program.

New programs should submit case logs and CME certification of designated director of liver transplant anesthesia. Established programs should routinely, as mandated by the OPTN/UNOS, provide information about the credentialing status of the director of liver transplant anesthesia.

At this time, the OPTN/UNOS does not collect recipient data that would allow us to ascertain if the stated goal is being met. However, if a program is identified as having less than expected outcomes during a routine review then it may receive a questionnaire that includes questions related to anesthesia. If a peer site visit is ultimately conducted at the hospital this aspect of the program is also examined during the review.

Additional Data Collection:

This proposal does not require additional data collection in UNet^{sm}.

Expected Implementation Plan:

Applications for new liver transplant programs include a number of questions pertaining to the director of transplant anesthesiology, their experience, and their role in the transplant program. These questions were added to the forms in 2008 so the information has only been collected for programs that have applied since that time. The change in key personnel application also asks that the name of the director be verified. If this proposal is approved information will be collected from the programs that do not presently have a designated director of liver transplant anesthesiology designated.

This proposal will not require programming in UNet^{SM}.

Communication and Education Plan:

Communication Activities			
Type of Communication	**Audience(s)**	**Deliver Method(s)**	**Timeframe**
UNOS Update announcement	All Members and the transplant community	Electronic, Paper	Next edition of Update after passage by the board of directors
Implementation Notice	All Members and the transplant community	Electronic	Immediately after passage (30-days)
Request for information	All liver transplant programs that do not have a designated director of liver transplant anesthesiology	Electronic, paper	Within 6 months of passage by the board of directors

Monitoring and Evaluation:

Compliance with this bylaw will be voluntary, however, applicants for new liver transplant program are required to answer the questions in the application that pertain to transplant anesthesiology. The Committee anticipates that this modification will improve application completeness and transplant program awareness of the importance of having qualified individuals in the director role.

Policy or Bylaw Proposal:

Appendix B, Attachment I, Section VIII

VIII. Collaborative Support. The proper care and management of transplant recipients often requires the assistance of both physicians other than surgeons and ancillary health professionals. The transplant program, therefore, must show evidence of collaborative involvement with experts in the field of radiology, infectious disease, pathology, immunology, anesthesiology, physical therapy and rehabilitation medicine, histocompatibility and immunogenetics, and, as appropriate, hepatology, pediatrics, nephrology with dialysis capability, and pulmonary medicine with respiratory therapy support.

Attachment I, Appendix B of UNOS Bylaws
Designated Transplant Program Criteria

XIII. Transplant Programs.

A – C [No changes to these sections]

D. In addition to the foregoing requirements, to qualify for membership in UNOS, a transplant program must have a clinical service which meets the following criteria.

(3) Liver Transplantation

(a) Transplant Surgeon **[No changes to this section]**

(b) Transplant Physician **[No changes to this section]**

(c) Qualifications for Director of Liver Transplant Anesthesia

Liver transplant programs shall designate a Director of Liver Transplant Anesthesia who has expertise in the area of peri-operative care of liver transplant patients and can serve as an advisor to other members of the team.

The Director of Liver Transplant Anesthesia shall be a Diplomate of the American Board of Anesthesiology (or hold an equivalent foreign certification).

Administrative Responsibilities:

The Director of Liver Transplant Anesthesia should be a designated member of the transplant team and will be responsible for establishing internal policies for anesthesiology participation in the peri-operative care of liver transplant patients. These policies will be developed in the context of the institutional needs, transplant volume, and quality initiatives.

The policy must establish a clear communication channel between the transplant anesthesiology service and services from other disciplines that participate in the care of liver transplant patients. The types of activities to consider include peri-operative consults; participation in candidate selection, and in morbidity and mortality conferences (M&M Conferences); and development of intra-operative guidelines based on existing and published knowledge.

Clinical Responsibilities should include but are not limited to the following:

- Pre-operative assessment of transplant candidates;
- Participation in candidate selection;
- Intra-operative management;
- Post-operative visits;
- Participation on the Selection Committee;
- Consultation preoperatively with subspecialists as needed; and
- Participate in M&M Conferences

Qualifications:

1. The Director of Liver Transplant Anesthesia should have one of the following:
   a. Fellowship training in Critical Care Medicine, Cardiac Anesthesiology, Liver Transplant Fellowship, that includes the peri-operative care of at least 10 liver transplant recipients, or
   b. Within the last five years, experience in the peri-operative care of at least 20 liver transplant recipients in the operating room. Experience acquired during postgraduate (residency) training shall not count for this purpose.

2. The Director of Liver Transplant Anesthesia should earn a minimum of 8 hours of credit in transplant related educational activities from the Council for Continuing Medical Education (ACCME®) Category I Continuing Medical Education (CME) within the most recent 3 year period.

(4) Liver Transplant Programs that Perform Living Donor Liver Transplants.
[No changes to this section]