

The AST Board of Directors approved the following responses to the OPTN/UNOS Fall 2021 Public Comment period. All responses were developed after review of feedback from the Society's Communities of Practice and Policy Committee.

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AST Public Comment Response
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Guidance Addressing the Use of Pediatric Heart Exceptions](#)

The American Society of Transplantation supports this proposal that aims to provide greater clarity and guidance for the status of pediatric candidates for heart transplantation with the following diagnoses: dilated cardiomyopathy, hypertrophic cardiomyopathy, congenital heart disease, cardiac allograft vasculopathy. The proposal makes reasonable recommendations regarding the process to upgrade different types of cardiomyopathy in the pediatric population. Overall, for the majority of types it creates greater alignment with the adult policy. Additional clarity regarding contraindications for mechanical circulatory support would be beneficial in dilated cardiomyopathy candidates.

We offer the following points that we believe warrant additional attention before moving this proposal forward for final approval:

- Dilated Cardiomyopathy:
 - Guidance is stratified by weight and inotrope utilization (similar to the adult policy with the absence of specific hemodynamic requirements)
 - Guidance is also provided for contraindications for mechanical circulatory support. These criteria are somewhat vague – but this does allow for center-specific differences.
- Hypertrophic/Restrictive Cardiomyopathy
 - The proposal suggests this group is most adversely impacted by the current status system. The guidance in this proposal provides a clearer path to upgrade to 1A status and similar to the adult policy.
- Single Ventricle Heart Disease
 - The guidance provides aligns the pediatric policy with the adult policy.
- Coronary Allograft Vasculopathy & Re-transplantation
 - The proposal provides reasonable criteria to guide upgrade to status 1A.
- Supporting exceptions in children <10 kg who are not on VAD support. Some of our members disagree with this exception. Their concern is that smaller centers may not be comfortable placing VADs in small children, and this would give children in these centers an advantage over children at larger, more skilled centers. We also feel that this exception could potentially disincentivize centers from placing a VAD and lead to suboptimal outcomes.
- Milrinone of 0.5mcg/kg/minutes should not be considered "high dose". Many centers use this dose for children who are feeding intolerant to improve nutrition. We do not feel that this dose always represents severe illness.
- We suggest that the committee consider specifying what the VAD contraindications are for the 5-10kg group. To respond to the request for feedback, we do not think that there are other VAD contraindications that need to be considered at this time.
- To respond to the request for feedback, there are not sufficient data to support the use of a stringent "measure of sensitization" for Status 1A listing for CAV candidates.

AST Committee Feedback Form for OPTN/UNOS Public Comment Proposals
August 4 - October 1, 2020 Public Comment Period

Proposal Title: [Updated Cohort for Calculation of the Lung Allocation Score \(LAS\)](#)

The American Society of Transplantation supports this proposal, but offers the following comments and recommendations for consideration:

This intent of this proposal is to update the variables, coefficients, and probabilities used in calculating the lung allocation score (LAS). An additional goal is the refinement of variables to those that are predictive within the waitlist mortality and post-transplant mortality models. The current iteration of the LAS is based up on a patient cohort that is now nearly 12 years old. The updated cohort for LAS calculation includes candidates and recipients from March 1, 2015 through March 30, 2018. Given that there were substantial changes made in 2008 it might have been instructive to include in the current proposal more information about the effects of those changes? We should have more than ten years of data to consider. For example, in what ways did removal of the FVC, or the addition of cardiac index, affect candidate selection in subsequent years?

Several variables were identified as non-predictive due to small numbers of candidates or recipients. Waitlist variables proposed for removal include: obliterative bronchiolitis; lymphangiomyomatosis; Eisenmenger's syndrome; and Bilirubin increase > 50%. Post-transplant variables proposed for removal include: lymphangiomyomatosis; creatinine increase > 150%; and Eisenmenger's syndrome.

- *Our adult pulmonology representatives noted that the removal of variables due to small numbers of candidates or recipients is reasonable and appropriate. We agree with this change as well as continued collection of data with reference to these variables for future assessment.*
- *Our pediatric pulmonology representatives noted that the removal of certain waitlist variables due to "small numbers" is a statistical practice that is different than the removal of variables because they have been proven to be accounted for by other variables. For example, they are not arguing, that Eisenmenger's physiology is irrelevant; rather, simply, that they cannot prove whether it is relevant. Given that there might be a delay of ten years or more until there is further significant revision of the LAS, they suggest that we should be open to the possibility that further research will prove the relevance of some of these "orphan variables." They would expect that allocation could be adapted accordingly to such a contingency (including, for example, another LAS revision, or the accommodation of exception requests based on these understudied variables).*

Several variables identified in the previous cohort were noted to have reversed sign (changed from positive to negative or negative to positive prediction of mortality) in the updated cohort.

Waitlist survival variables in this category include: pulmonary fibrosis, other; diabetes; FVC <80% spline, group D; cardiac index < 2 L/min/m²; and CVP > 7, spline group B. The Committee proposes to remove 4/5 of these variables with the exception of pulmonary fibrosis, other. This

hazard ratio for waitlist mortality for pulmonary fibrosis, other changed from -0.21 (p= 0.6297) to 0.21 (p=0.2093). This variable was retained in the model as the committee felt that the change in hazard ration could be consistence with their medical experience.

- *The removal of cardiac index <2 L/min/m² may have adverse effects on patients in group B. In other models this parameter has been shown to correlate positively with mortality in pulmonary hypertension (particularly group 1 PAH). Was this variable analyzed separately for group B patients alone and was consideration given to retaining this variable for group B patients only.*
- *Retention of pulmonary fibrosis other. Group D includes many different diagnosis codes and the category of pulmonary fibrosis, other is the most vague and therefore may be quite heterogeneous in composition. It is unclear how this diagnosis category is utilized by centers and effort to use more specific coding should be encouraged. The hazard ratio for this variable for mortality switched from positive to negative but without significant p-values. As there is no statistical correlation with mortality in the model, and this category is not very clearly defined we question the decision to retain it in the model.*

Post-transplant survival variables in this category include: pulmonary fibrosis, other; sarcoidosis, PA>30; sarcoidosis, PA <=30; and functional status, no assistance. The Committee proposes removal of pulmonary fibrosis, other; and functional status, no assistance. These variables were noted to no longer be predictive based upon high p-values. The sarcoidosis variables changed from negative to positive hazard ratios for post-transplant 1-year mortality. The sarcoidosis variables were retained as they were noted to be still predictive (p<0.0001 for sarcoidosis, PA > 30) or possibly predictive (p = 0.0736 for sarcoidosis PA <= 30) based upon low p-values and the Committee felt that the findings of the model were consistent with medical expertise.

Implementation Considerations - Requested feedback:

The Committee would like feedback regarding whether there is a benefit to waiting to implement changes concurrently with continuous distribution.

- *There does not appear to be a clinical justification for delay in implementation of changes to the model. Therefore, the decision of whether to implement changes now or concurrently with continuous distribution may largely be based upon the ability to analyze the impact of these changes in the future.*

Potential impact on select patient populations:

- *As noted above, the removal of cardiac index <2 could adversely affect group B candidates. However, this does not appear to be apparent in figure 2.*
- *While the LAS model appears to identify and prioritize the highest risk patients it is less sensitive in its ability to stratify and identify risk amongst certain groups of patients, particularly those with COPD and cystic fibrosis resulting in large cohorts of patients with minimal difference in LAS values. Future incorporation of other disease specific variables into the model could help to more accurately reflect prognosis for such patient groups.*

Additional feedback requested:

Are the appropriate variables being removed from the calculation?

- *See comments above re.: cardiac index < 2 and pulmonary fibrosis, other.*

Should the committee add any transition procedures to protect any specific population

- *No recommendations re. transition procedures. The Committee may wish to remind transplant centers of the potential to request a LAS adjustment when they are concerned that the patient's transplant urgency is not reflected in their LAS>.*
- *The pediatric practitioners did not feel that there was a need for transition procedures to protect our populations. We would expect, however, given the drop in LAS rank for diagnosis group A candidates, that there will be ongoing analysis to ensure that there is not a significant increase in waitlist mortality following implementation of the current proposal.*

AST Public Comment Feedback
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Update on the Continuous Distribution of Organs Project](#)

The American Society of Transplantation supports the Continuous Distribution of Organs Concept which uses 5 components in a Composite Allocation Score to overcome long-standing problems of accidents of geography created by arbitrary geographic borders. We acknowledge and appreciate the timely actions taken by UNOS to address evolving issues and needs within the transplant and donation community related to the Continuous Distribution Project. However, we do also want to ensure that young pediatric candidates are not disadvantaged (see comments below).

We found the document to be extremely helpful in understanding the process and steps involved in determining the goals and attributes which are being considered for the Composite Allocation Score. The discussion on why or why not specific attributes were being used was transparent, not difficult to follow the reasoning and based on prior literature. We support the dissolution of hard boundaries in the current classification system and agree with the proposed attributes that make up the composite allocation score.

The Priority exercise was helpful to understand this process. The AST encourages all lung transplant professionals to complete this survey. We believe there is value in other solid organ professionals' review of this exercise, as although the attributes may be different from lung, the goals remain similar for all organs.

At the direction of the HHS secretary in response to a court challenge several years ago, the most recent change to the pediatric donor sequence in the lung allocation policy prioritized access for pediatric lung candidates under 12 to adolescent donor organs (including priority over other adolescents within 1000 nm of the donor) while protecting priority for under 12 candidates to access under 12 donor organs. In the proposed continuous distribution framework, candidates under 12 will lose both sets of priorities. Although the proposal outlines steps intended to mitigate these changes (assigning pediatric lung candidates under 12 medical urgency and post-transplant survival scores based on historical cohorts, giving pediatric candidates as a group additional points and giving smaller patients additional points based on the proportion of donors with suitably sized organs), it remains to be seen whether modeling will verify that these changes will not negatively impact access to transplant and waiting list outcomes for children under 12. Because the numbers will likely be too small to reach statistical significance, gathering sufficient evidence to make a change post implementation may be challenging. To ensure that this project continues to move forward in a timely manner, we recommend that the committee consider including in their modeling requests alternate constructs that protect access for this small but vulnerable patient population.

The conversion of attributes into points should result in marginal negative impacts to organ utilization rates, waiting list mortality rates, and post-transplant survival. As described currently, the fifth goal, Placement Efficiency, is of particular importance to the Society's Recovery and Preservation Community of Practice. It is and will be increasingly important to allow for flexibility of the nautical mileage attribute as a proxy for ischemic time as more preservation devices are being used to extend preservation time and thus distance, if the organ is going to be transported on device. Careful deliberation with community involvement on how to appropriately weight this factor fairly and ensuring future ability to revisit frequently as perfusion technologies evolve, is requested by some of our COP members. Additionally, in situations where initially declined organs are sent to regional perfusion

centers for repair or rescue treatment, the distance starting point for the subsequent allocation of the organ after treatment should be from that perfusion center's location. This is important to accurately calculate where the organ will be traveling from and also to limit disincentives for utilizing regional perfusion centers as a key strategy for increasing the availability of transplantable organs.

AST Public Comment Feedback
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Guidance and Policy Clarifications Addressing Adult Heart Allocation Policy](#)

The American Society of Transplantation supports this proposal in concept and offers the following thoughts for consideration:

The current policy for Status 4 justification was clinically questionable and therefore this change is welcome. In particular, patients will no longer need to be weaned from inotropes to prove they are in cardiogenic shock to satisfy the current requirements. The status extension to 180 days is also reasonable given the median wait time and lack of restrictions on prior 1B status. The Committee does, however, need to clarify how hemodynamics may be obtained. CI may be obtained non-invasively and while the policy requires documentation of PCWP>15 mmHg there may be exception requests to provide PAD values from patients with implantable monitors (CardioMEMS). The Committee is anxious to reduce exception requests (see below).

Regarding the Status 1 change from 14 days to 7 days, as the median days to transplant for Status 1 is 4 days, this change appears reasonable and provides equity with patients on VA-ECMO.

Regarding the Status 2 guidance document, this proposal will go a long way at addressing some of the challenges faced by RRB with the deluge of requests they receive for exception for this particular status. The template is a nice idea to ensure relevant data is included with the application. It will improve the current process towards an attempt to “standardize” such request to ensure all programs are playing by the same rules. However, there is still much room for “gaming” in the criteria for contraindications to LVAD section and some members of the council suggest more concrete definitions or an emphasis that the narrative should be extensive on the item proposed since there is substantial center to center variability. Some examples are listed below:

Severe TR - TAPSE - (1) this was felt to be too easy to game the system by repeating TAPSE, particularly as it is not a core lab; (2) this would make anyone with a TV annuloplasty qualify, even if RV had recovered (3) RV/LV size - fraught with arbitrary measurements.

Surgical contraindications:

- We don't believe either of the mechanical valves listed are contraindications without additional details of (1) why a Cohn sandwich for Mechanical AVR couldn't be performed and (2) not as clear that mechanical MVR is a contraindication
- "Small LV cavity" – we think it would benefit from having a number. 5.0 cm seems to be dichotomous, down from 6.0 cm.
- VSD – this would benefit from specifying why it couldn't be repaired.
- Multi-organ transplant – We are not sure that would be a status 2 justification – we believe this may best fit as a status 5.
- Thrombocytopenia – We believe this is too broad and too dynamic. We suggest that it would be important to know baseline platelet counts, as there are many ways that platelet counts could decrease transiently.
- Hypercoagulable – We agree, but suggest that additional details should be specified
- Contraindications to warfarin – We suggest that additional detail regarding why it is

contraindicated should be required Recent CVA - Wouldn't this be a contraindication to pump run OHTx or LVAD?

- Recurrent refractory ventricular arrhythmias – this is addressed by the policy elsewhere

AST Public Comment Feedback
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Further Enhancements to the National Liver Review Board](#)

The American Society of Transplantation is supportive of the proposal as written. We agree that pediatric NLRB reviewers should be UNOS certified pediatric physicians or surgeons, as children have very different risk factors than adults.

AST Public Comment Feedback
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Programming VCA Allocation in UNet](#)

The American Society of Transplantation supports programming for the allocation VCAs and data collection regarding candidates and recipients. We believe this is the most transparent method for allocation and data collection. We do suggest flexibility regarding rule out criteria or limitations around organ offers by the listing transplant program due to the fact that VCAs remain part of an IRB with its own limitations.

AST Public Comment Feedback
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Modify Data Collection on VCA Living Donors](#)

The American Society of Transplantation supports this proposal in concept. We appreciate this work to bring VCA living donations in line with requirements for all other living donors, including the collaboration of the UNOS VCA, Living Donor and Ethics Committees. We recognize the policy language for required data collection for living VCA donors as an important advance over the current voluntary data submission process for living VCA donors. This data collection will be important for the ongoing monitoring of VCA living donors. We see no reason for it to be any different than any other living donor. Also, because the LD VCA case numbers are small, this should not add burden to the Transplant Center's Data and Quality team.

We offer the following comments for the committee's consideration:

- For VCA living donor data collection requirements, consider adding intraoperative complications including anesthetic complications under surgical information for all VCA donors (as currently collected for living lung donors).
- Likewise consider adding post-operative complications during the initial hospitalization under Post-operative information for all VCA donors (as currently collected for living lung donors).
- We would favor the collection of "new onset psychological symptoms" for all VCA donors, not limited to uterus donors only. Non-uterine VCA donors are uncommon, so this will not pose a large data collection burden but may be relevant to understanding outcomes as practice evolves. The data collection would also align with disclosure in the informed consent policy that there may be potential psychosocial risks of living VCA donation. Accordingly, over time, this may help centers provide more quantitative information in their risk disclosure.
- We suggest the following additions for data collection regarding infectious disease
 - Syphilis screening for uterus donor
 - Treatment history for sexually transmitted infections of uterus donor, in particular Gonorrhea/Chlamydia (due to the possibility of drug resistance)
- We suggest that specific data points may be more beneficial with granular detail, such as:
 - Equivocal results should be an option for certain screening serologies (e.g. Toxoplasma IgG and HSV1/2 IgG)
 - The source of the sample for Gonorrhea/Chlamydia NAAT should be specified

AST Public Comment Feedback
August 4 – October 1, 2020 Public Comment Period

Modify Living Donor Policy to Include Living VCA Donors

The American Society of Transplantation supports this proposal. We appreciate this work to bring VCA living donations in line with requirements for all other living donors, including the collaboration of the UNOS VCA, Living Donor and Ethics Committees. The process and guidelines for living donor education, evaluation, and consent should be universal.

- We support the policy language for informed consent and medical evaluation.
- We additionally recommend in the “potential surgical risks” portion of the informed consent:
 - that centers are required to provide to the potential donor their center level VCA donors and recipient transplant outcomes given this form of transplantation is still considered experimental
 - That, for uterus donation, centers discuss the potential for not only short term but also long-term consequences of the surgical risk of urinary tract injury or dysfunction
- In the “potential financial impact” of the informed consent, we recommend that the proposal require centers to disclose that VCA uterine donation is still considered experimental and complications of the procedure may not be covered by the health insurance. Therefore, programs should be required to convey to the potential donor that there are degrees of financial risk involved for the donor
- Regarding the request for feedback, “*Should toxoplasma be a required test for all living donors?*,” we agree with the recommendations of the 2017 KDIGO living kidney donor guideline that testing should be guided by risk factors for possible exposure and recommend against universal testing for all living donors.

**AST Public Comment Feedback
August 4 – October 1, 2020 Public Comment Period**

Proposal Title: [COVID-19 Emergency Policies and Data Collection](#)

The American Society of Transplantation acknowledges and appreciates the timely actions taken by UNOS to address evolving issues and needs related to the COVID 19 pandemic in the setting of an unprecedented emergency to protect patients, providers, & resources and preserve outcomes, and minimize missed opportunity for transplantation.

In response to the specific questions posed within the proposal:

- Were the Executive Committee's actions appropriate in the emergency? **Yes.**
- Should the Board of Directors select a date for the expiration of the emergency actions, or should they delegate the repeal to the Executive Committee based on review of the changing environment? **Delegate the repeal to the Executive Committee**
- Should COVID-19 infectious disease testing remain in DonorNet. **Yes**
- Should the COVID-19 infectious disease data fields become mandatory in DonorNet. **Yes**
- Should the OPTN require retrospective data entry on follow-up forms given amnesty status under the emergency policies? **Yes**
- Are there other things OPTN should have done, or can still do, to respond to the COVID-19 crisis? **No**
- Is the emergency policy process utilized by the OPTN the most appropriate way to respond to an emerging health crisis? **Yes**

There was not universal agreement from our membership in considering these issues. The AST shares its thoughts below regarding the four emergency actions taken:

Updating Candidate Data During 2020 COVID-19 Emergency:

We agree with this policy in as far as programs are making the effort to collect and report interval data as they would under normal situations unless it is felt that an unreasonable risk or harm exists for a given patient. However, there should be clear explanation as to why there may be harm as there is strong potential to "game" the system and bypass crucial qualifying data hiding behind this policy. It should, however, be required that transplant centers submit updated clinical data for all wait-listed candidates to the OPTN, soon after they resume routine institutional practices and procedures. At any time, centers must inform the OPTN of acute changes in the candidates' clinical status that affect their status on the list.

Modification of wait time initiation for non-dialysis renal transplant candidates is the correct action for the duration of time that transplant centers are unable to complete the required, standard testing for candidate registration. Since the trajectory of the COVID-19 pandemic is variable between different parts of the United States of America, it is ideal to define the time point for return to complete testing for candidate registration, based on the local circumstances in the state/region. If a state/region-specific policy cannot be created, OPTN can define a time point for return to routine candidate testing but allow transplant centers to submit requests for extension of that time based on their local COVID-19 related circumstances.

Relax Data Submission Requirements for Follow-up Forms:

We also acknowledge the need for and the importance of retrospective data entry but would like to note that this could pose a financial and administrative burden on programs. These amnesty policies make

sense during severe overwhelming outbreaks such as that seen earlier in the pandemic in NYC. As we do not know if future overwhelming outbreaks may occur, it makes sense to incorporate this policy for some future period of time. That being said, it does not make sense to have a huge backlog of data that either is never retroactively entered or places an even further burden on a center to enter retroactively down the road. As this data is critical to our knowledgebase going forward we favor (at least in part) ending this period of amnesty in the relative near future. For instance, it might make sense to end this at the set expiration date of 12/31/20.

Short of an overwhelming surge, like that seen in the NYC area whereby it was an “all hands on deck” situation provider-wise, most programs will be at worst moving at a typical busy pace and at best possibly moving at a slower than typical pace (from a transplant volume perspective). Consequently, most programs should have the manpower to handle this paperwork in real time. We do recognize that there is geographic variability in the pandemic activity and accordingly transplant centers will have uneven disruption of their programs. As noted above, risk to patients from a COVID-19 transmission standpoint should be continuously monitored and amnesty used only judiciously in cases where risk is assessed as unacceptably high. It therefore may make sense to end amnesty for paperwork that does not require a physical recipient or LR donor visit in the near future but extend amnesty for reporting that does require a physical visit.

This information is key to continued study of the epidemiology of post-transplant complications. The AST recommends that the amnesty on post-transplant and living donor monitoring data submission, be granted for a defined time period only. While some members of AST were concerned about the administrative burden and financial cost, most members supported mandating retrospective submission of TRF, PTM and LDF forms to the OPTN. Since this is an uneven and evolving pandemic, reassessment of the COVID-19 related amnesty time period should be permitted, and an appeal process should be instituted so that individual centers can contact the OPTN for extension of amnesty as needed based on their local/regional COVID-19 related circumstances. In addition, it should be emphasized that while retrospective data reporting is requested, centers will not be evaluated on comparative outcome benchmarking during the pandemic period.

Incorporate COVID-19 Infectious Disease Testing into DonorNet®:

The OPTN data provided demonstrates that between April 21, 2020 and June 30, 2020 100% of deceased donors were tested for COVID-19 (although only 72% were reported in the provided DonorNet fields with the rest being reported via attachments or free text). Incorporation of donor COVID-19 results into DonorNet is the correct action, but these fields should not be optional. This information is essential to patient safety during the transplant procedure, appropriate infection prevention for patients/healthcare teams, targeted post-transplant monitoring and timely management of complications. Data on COVID-19 testing should therefore be made available to all transplant teams across the United States and should at this time be maintained in the upcoming years given the evolving nature of this pandemic.

AST Public Comment Response
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Align OPTN Policy with U.S. Public Health Service Guidelines, 2020](#)

The American Society of Transplantation supports much of this proposal but does have some specific comments for consideration.

Our comments and concerns are listed by the categories defined by the OPTN:

- **Risk assessment of living and deceased donors**
 - The AST supports and fully endorses eliminating the stigmata of the “increased risk” designation from donors as well as modifications to the criteria for this designation, including the removal of hemodialysis and hemodilution. We caution that removing the terminology in a nebulous fashion without replacing it with a specific term will eliminate the benefit of a common terminology language.
 - The Society notes that there is a lack of a term to distinguish those situations where transmission is anticipated for HBV, HCV, or in HOPE-act-compliant cases, HIV from those in which there is an increased risk of acute HBV, HCV, or HIV, despite negative testing.
- **Transplant candidate informed consent**
 - We agree with this policy change as special consent was the result of regulatory over-reaction to donor disease transmission which itself is extremely low. The 10 years of DTAC data shows that disease transmission is so low as to be unquantifiable in individual circumstances and should be balanced against the risk of ongoing chronic end-organ disease.
 - Centers should continue to have an open and honest conversation with organ candidates regarding the risks and benefits of accepting an organ from a particular donor. There is concern that the removal of the practice of specific informed consent for increased risk donor organs may undermine patient autonomy. Specific informed consent was a systematic approach to ensuring that important risk information was conveyed to patients. The proposed policy’s revision of relying on usual informed consent processes to cover the discussion of the unique risks posed by increased risk donor organs may fall short of facilitating a patient’s informed decision-making process in some cases. It is well documented that informed consent varies by transplant center and removing the specific informed consent may reduce the likelihood of discussions regarding risks and benefits of accepting increased risk donors occurring, and thereby reduce patient understanding. Removal of specific informed consent could also remove protections for the provider should a negative outcome occur. The AST would appreciate educational offerings on this topic for programs to provide clarity on best practices for informed consent of donors with these risk factors.
- **Recipient testing and reporting**
 - For candidate evaluation, the requirement to assess the need to provide HBV vaccination. Add requirement to report vaccination status
 - The AST ID COP is a proponent of vaccination and feels strongly that patients should receive hepatitis B vaccination prior to transplantation. The AST

understands the intent behind collecting these data and feel that HBsAb status should be collected. However, the collection of vaccination status may be beyond the purview of this policy. It is likely to add a burden to transplant centers and be logistically difficult. There is no central depository of vaccine administration and not even state registries are 100% reliable, particularly if vaccine is administered at pharmacies. The answer to if the patient received hepatitis B vaccination is difficult in that patients often receive different number of doses and types of vaccine, so it would be challenging to define the answer to the question.

- Many thoracic recipients receive a partial vaccination series but are transplanted before it becomes effective. Moreover, in young recipients, there is more consistent vaccination status in recipients 40 years of age and younger. The requirement can be encouraged, depending on clinical status of recipient.
- For kidneys, candidates often receive this vaccination at their dialysis center. The data collection related to HBV vaccination status will increase the burden on transplant centers due to the need to acquire vaccination status from dialysis units. Also, a majority of pre-dialysis CKD patients are not vaccinated, and it will be burdensome for transplant center to vaccinate them if asked to do so. A course of vaccination at 0, 1 and 6 months may not provide immunity (Hepatitis B surface antibody [anti-HBs] > 10 mIU/ml) and many patients may require repeat courses of vaccination. It may not be feasible for patients to travel to transplant centers to receive vaccination.
- For these reasons, we recommend keeping the assessment of HBVsAb level but not being required to verify HBV vaccination
- Several community of practices gave feedback specifically on the subject of Universal Post-transplant NAT testing for HIV, HBV or HCV at 4-8 weeks post-transplant and HBV NAT for liver recipients at 11-13 months post-transplant as well as pre-transplant testing at the time of transplantation.
 - It was noted that universal testing of all recipients at 4-6 weeks after transplantation is a sizeable increase in testing, with associated financial burden for centers and patients particularly if some insurance does not cover it, as well as a logistical burden on laboratories. It will be important to understand whether recipients' insurance will cover these additional tests, and if not, how expense related to this new mandate will be absorbed.
 - Previous post-transplant viral testing focused on patients receiving organs from donors with one or more risk factors. It would appear that most transmission events cited to support this change occurred following transplants from donors with risk factors or other viral diseases. For example, in a published analysis of HBV and HCV infections transmitted through organ transplantation investigated by CDC in the United States between 2014-2017 (Am J Transplant. 2019;19:2570–2582), all 16 donors associated with HBV or HCV transmission events (7 and 20 respectively) met PHS increased risk criteria. Accordingly, the question is posed: have any transmission events been documented when using low risk donors who have tested negative for HIV, HBV and HCV following current guidelines? How many additional cases of transmitted viral diseases are expected to be captured by expanding testing to recipients of organs without risk factors (i.e. what is the number needed to test in order to identify one infection when using low risk donors)? Was there a cost-benefit analysis performed before adopting universal testing of recipients including those who do not have risk factors? Increased testing must be justified particularly due to reagent, analyte

and staffing shortages engendered by the SARS-CoV-2 pandemic that have had broad implications and impacts on laboratories.

- Moreover, not all centers may be able to perform this type of testing easily, and they may require exportation of their lab samples to another facility. We suggest having more permissive language to encourage testing to be within 3 months and requiring it within 6 months. We see no value for testing requirements after 6 months, as it is beyond any eclipse window at that point.
- Consideration of risk benefit of these blood draws on small pediatric recipients has to be considered. The infectious disease labs may require a large blood volume at some centers, accordingly, requiring more testing may significantly add to anemia and lower blood volume. As Salvatierra et al showed back in 1998, there is a greater than two-fold increase in aortic blood flow after putting an adult kidney into an infant, and this increase was sustained for at least 4 months and appeared to be driven by the blood flow demand of the adult donor kidney. Furthermore, actual posttransplant renal artery blood flow was significantly less than normal renal donor artery flow. This is what led to aggressive intravascular volume maintenance to achieve and maintain optimum aortic blood flow, to prevent low-flow states that could induce acute tubular necrosis, vascular thrombosis, or primary nonfunction. Decreasing blood volume unnecessarily, particularly if a low risk group for these viruses could be detrimental in these VERY fragile small children. We suggest that children <20kg not have pre-transplant re-testing done if it was done in the past 12 months (unless they are at a higher risk) as the risk of these children getting HIV, Hep B or Hep C from eval to transplant is extremely low.
- Finally, we suggest that a timeline for tracking universal post-transplant NAT testing be put into place to revisit its value for ALL recipients. The AST suggests considering 2- or 3-year period for universal testing and then an evaluation of the data and DTAC analyses to determine whether this practice should continue long term or be limited to specific populations, such as patients receiving organs from donors with at least one identified risk.

- **Collection and storage of donor and recipient specimens**

- The AST opposes the 10-year requirement of archiving donor samples. Archiving donor blood specimens for at least 10 years by living donor recovery centers will result in increased financial costs, logistical hurdles, and increasing material capacity for storing additional samples. We feel that storing living donor specimens for 10 years is unrelated to this policy. Transmission of HIV, HBV and HCV, if it occurs, will occur within the first few months of transplantation. Storing samples for 10 years will incur costs and logistical issues without the expectation of a benefit.
- We offer the recommendation to the OPTN that living donor samples be stored no longer than two years post-transplant by recovery hospitals. The rationale for this is living donor related infections and malignancies are seen early on after transplantation unlike deceased donors and the incidence of donor derived infection and malignancy is significantly lower than with deceased donors so the degree of effort required from transplant centers to maintain specimens for 10 years will have very little yield.
 - A recent study found that viral infections presented a median of 48 days (range 11-776) after transplantation (Daniel R Kaul, Gabe Vece, Emily Blumberg et al. Ten years of donor-derived disease: A report of the disease transmission advisory committee. Am J Transplant 2020 Jul 5). The authors mention in the

discussion section of their manuscript that risk of donor derived infection was 10-fold lower in recipients of living compared to deceased donors.

- For 14.8.B The requirements for sample storage from living donor requirements are vague. Since most HLA labs already store reference samples on living donors, it is likely that they will take on the responsibility for this requirement. The sample storage will represent a marginal burden on HLA labs for living donors, but there is no recommendation for compensation to fund the storage space or the effort required for storage and documentation. In addition, there is insufficient guidance with regards to sample type and volume: the CDC guideline calls for “blood” and the OPTN guideline states “specimens appropriate for serological and NAT testing.”

AST Public Comment Response
August 4 – October 1, 2020 Public Comment Period

Proposal Title: [Incorporating COVID-19 Related Organ Failure in Candidate Listings](#) (Lung Transplant Committee)

The American Society of Transplantation is supportive of this proposal in concept and supports collecting data on COVID-19 diagnoses as they relate to transplant candidates. We do not think the medical community has yet identified all of the potential sequelae of COVID-19 infection. We also suggest caution regarding rushing to transplant, especially in the ill patient on ECMO, since the disease can have protracted course with ultimate recovery.

We believe it is important to collect data in transplant candidates moving forward to further our understanding of the impact of COVID-19 on the transplant community. The AST believes it would be helpful to prospectively identify information that could impact understanding of the COVID-19 pandemic along with other pandemics that may arise in the future. In particular, the Society notes that we currently exclude potential donors who test positive for SARS-CoV-2/COVID-19. However, we feel it important to emphasize our commitment to individuals who develop end stage organ failure from COVID-19 and ultimately require a transplant. The system will benefit everyone from having data collected. We believe there may also be opportunity to capture information such as ICD-10 codes that could be retrospectively evaluated to provide insight into the impact of this pandemic situation.

The Society shares the following comments for consideration:

In response to specific questions posed by the Lung Committee:

For lung, are there diagnoses other than ARDS and pulmonary fibrosis that would be caused by COVID-19 and require lung transplantation?

- Regarding lungs, we suggest ARDS and chronic fibrosis are two distinct groups with different risks and thus should be clarified in the diagnosis list.
- In addition, multi PE resulting in CTEPH be considered a possible diagnosis. Likewise, you may wish to consider adding: COVID-19 related pulmonary thromboembolism.
- It will be important to update information as we continue to learn about this novel virus as other COVID-19-related lung diagnoses may arise over time.

Are candidates for other organs being listed due to COVID-19 related organ failure?

- As the COVID-19 pandemic progresses we may find more types of organ failures due to SARS-CoV-2. Currently, the impact has been limited but we are less than a year into the pandemic. Specific comments are noted below.
- Since COVID-19 myocarditis is a recognized entity and can lead to terminal heart failure and need for transplantation, we believe this should be added as an option for the etiology of the heart failure. This information will help the transplant community track and determine its prognosis and potential impact on post-transplant survival.
- Our liver community of practice does not believe there are enough data to currently support liver-related COVID diagnoses at this stage. Overwhelmingly, it was felt that any COVID-19 related liver failure/decompensation would either be characterized and qualified as an Acute Liver Failure diagnosis or would be an insult on top of some underlying disease (ACLF), with appropriate diagnosis codes already available for the underlying diagnoses. However, other

community of practices noted the potential benefit of having COVID-19 specific diagnoses to track the overall impact of this novel virus on transplantation.

- We are not aware of other specific examples; however, this remains theoretically plausible as COVID-19 is a systemic infection with multi-system effects and can be monitored over time. Accordingly, many felt that having a code for COVID-19 specific organ failure would be beneficial.

Should the OPTN establish COVID-19 related diagnosis codes for other organs?

- Yes. See below for specific examples.

The Lung Committee is seeking feedback on whether COVID-19 diagnoses should be collected on heart candidates.

- Yes. The option to list COVID-19 related cardiomyopathy as a diagnosis should be available.

The Lung Committee is seeking additional feedback on whether COVID-19 diagnoses should be collected on kidney candidates.

- Yes. The option to list COVID-19 related kidney disease as a diagnosis should be available.

The Lung Committee is seeking additional feedback on whether COVID-19 patients could need a liver or intestine transplant as a result of damage from COVID-19.

- Yes. Given the thrombotic potential of SARS-CoV-2, acute thrombotic events, such as hepatic artery thrombosis resulting in liver failure, or bowel/mesenteric thrombosis, could result in injuries that would lead to a need for a liver or intestine transplant.

The Lung Committee is seeking feedback on whether COVID-19 diagnoses should be collected on pancreas or VCA candidates.

- At this time, it is unclear if there is damage from COVID-19 that would result in need for pancreas and/or VCA transplant.

While not covered in this proposal, we also suggest that the following be added to data collected on all solid organ transplants to better understand the impact, if any, that SARS-CoV-2 infection may have on the overall post-transplant outcomes

- Has the patient ever had COVID-19? (If so, when was it diagnosed?)
- Does the patient currently have COVID-19? (While we suspect this will be rare, it could be included under “ever had COVID-19” question (as noted above)