

RACIAL BIAS IN CLINICAL TOOLS AND IMPACT ON ORGAN TRANSPLANTATION

The AST acknowledges that racial disparities exist in organ donation and transplantation. Race is a social phenotype construct and an unreliable proxy for significant disease.

Black and bi-racial patients are not phenotypically nor genotypically homogenous. In present-day models of organ allocation, patient priority for transplantation, and healthcare resource allocation, the misuse of race as a predictive variable has led to over weighted and oversimplified decision-making algorithms with significant downstream consequences that disproportionately disadvantage pediatric and adult Black individuals seeking equitable access and care in the organ donation and transplant healthcare system.

These are examples of clinical tools where race as a variable disparately impacts clinical decision making and evaluation of expected outcomes:

The application of estimated glomerular filtration rate (eGFR)

- Equations for eGFR assign a race coefficient to Black patients potentially overestimating their true kidney function. As a result, Black patients are predicted to have a higher GFR for the same level of serum creatinine compared to non-Black patients, thus exaggerating racial disparities in timely access to kidney transplantation, eligibility criteria for simultaneous liver-kidney (SLK), the post-liver transplantation (LT) safety net, and simultaneous heart-kidney transplant listing due to delay in referral and listing for transplant, longer wait time to a transplant, as well as lower living donor transplant rates compared to all other racial groups.¹ Removal of race from eGFR formulas may allow for equal access to kidney transplant, SLK, post-LT safety net, and simultaneous heart kidney listing for Black patients with underestimated kidney disease.

The Kidney Donor Predictive Index (KDPI) and Liver Donor Risk Index (DRI)

- The KDPI and DRI combine a variety of donor factors, including race, to express the relative risk of kidney and liver graft failure respectively, for a given donor compared to a white reference donor. With all other factors being equal, the adjustment of race can increase the theoretical risk of graft failure by more than 20% in both models. Thus, this potential overestimation of graft failure may impact organ allocation algorithms, organs selected for transplantation, organs selected for transplant, and the opportunity for Black individuals to participate in the organ donation process.

Misuse of race in clinical and research equations wrongly perpetuates race as a categorical and biological construct and may be a source of continuous mistrust between Black, Indigenous, and people of color (BIPOC) patients and healthcare providers.

The AST believes this issue requires urgent attention, research, and appropriate resources allocated to a national plan which prioritizes equitable diagnoses and treatments for all patients in all healthcare systems. We assert that it is important to identify structural racism and socio-economic deprivation as determinants of health that must be systematically deconstructed. We fully support the motion to redress the use of race in clinical algorithms and research where there is unproven equitable benefit to all patients.

1. Sarat Kuppachi, Silas P Norman, Krista L Lentine, David A Axelrod. Using race to estimate glomerular filtration and its impact in kidney transplantation. Clin Transplant. 2020 Nov 24; e14136. doi: 10.1111/ctr.14136. Online ahead of print.

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1. Sarat Kuppachi, Silas P Norman, Krista L Lentine, David A Axelrod. Using race to estimate glomerular filtration and its impact in kidney transplantation. Clin Transplant. 2020 Nov 24; e14136. doi: 10.1111/ctr.14136. Online ahead of print.