standard-calibrated NAT in solid-organ (SOT) and hematopoietic stem cell transplant (HSCT) recipients.

**Methods.** Sixty-four patients (36 SOT and 28 HSCT) had plasma CMV viral load assessed using the COBAS AmpliPrep/COBAS TaqMan CMV Test (CAP/CTM; lower limit of quantification [LLOQ] at 137 IU/mL) and cobs 6800 System (cobs CMV; LLOQ at 35 IU/mL). Viral load values were correlated with clinical course and outcomes.

**Results.** Forty-three of 64 patients (67.2%) had CMV infection or disease (asymptomatic, 67.4%; gastrointestinal disease, 16.3%; pneumonitis 4.7%) at median of 4.4 months (IQR 1.4 to 7.7) from transplantation. At CMV infection diagnosis, viral load results (mean ± SD) were almost two-fold higher when measured by cobs CMV (19,456 ± 51,618 IU/mL) compared with CAP/CTM (10,504 ± 27,744 IU/mL; P = 0.04). Time to onset of CMV viremia was significantly shorter (11.5 days; P < 0.001) while viral clearance was significantly longer (12.75 days; P < 0.001) by cobs CMV when compared with CAP/CTM. Persistent viremia was observed with cobs CMV in 44% of patients at the time of first negative result by CAP/CTM. Patients with negative results by cobs CMV at the end of antiviral treatment had a significantly lower need for re-treatment (OR 0.26, 95% CI 0.04 to 0.99, P = 0.05).

**Conclusion.** Our study highlights significant differences between CMV QNAT assays despite calibration to the WHO-international standard. The significant differences in the degree (almost two-fold), time to onset (12 days difference) and clearance (13 days difference) of CMV viremia between two automated commercial QNAT assays have direct implications in the care of transplant recipients. Persistence of low-level viremia was observed in samples that reached negative threshold by CAP/CTM, when tested using the more sensitive cobs CMV. Clearance of CMV viremia, when assessed by the more sensitive cobs CMV, was significantly associated with a lower need for re-treatment.

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1753. Adherence and Immunogenicity of Early Vaccination in Pediatric Allogeneic Hematopoietic Cell Transplantation (allo-HCT) Recipients
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**Session:** 168. Transplant ID: Vaccines

**Background.** Allo-HCT recipients are at increased risk for vaccine-preventable infections. Early vaccination (EV) beginning at 3–6 months (mo) post-HCT has been shown to be safe, immunogenic, and is recommended. We assessed adherence and immunogenicity to EV in children post-allo-HCT.

**Methods.** Retrospective analysis of allo-HCT performed 1/1/10–6/30/18 at NCH. Children who died, relapsed, or received anti-CD20 biologies in the 6 mo preceding intended vaccination were excluded. Institutional guidelines recommend EV starting at 6 (+1) mo post-HCT with: 3 PCV13 + 1 PPSV23, IPV, HBV, DTaP and HIB. Vaccination rate was analyzed at ≥6 (+1), ≥8 (+1) and ≥10 (+1) mo post-HCT and serologies were obtained pre- and specific Ab post-vaccination were performed.

**Results.** During the 8-year study period, 171 allo-HCT were performed: 131 children were eligible for EV (Table 1); however, EV occurred in only 49.6% (65/131) and was lower need for re-treatment (OR 0.26, 95% CI 0.04 to 0.99, P = 0.05).

**Conclusion.** Despite recommendations, adherence to EV was low among our cohort of allo-HCT recipients and identified opportunities for improvement. Overall, vaccines were immunogenic with no significant differences in Ab concentrations among patients receiving early- vs delayed vaccination. No robust correlations were found between number of T&B cells or total IgG and Ab titers.

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1754. Pre-Transplant Vaccination Rates in Solid-Organ Transplant Recipients
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**Session:** 168. Transplant ID: Vaccines

**Background.** Recipients of solid-organ transplants (SOT) are at increased risk of vaccine-preventable illnesses. Because of the immunosuppression administered following SOT, live vaccines are generally contraindicated post-SOT, and response to inactivated vaccines may be suboptimal. National and international guidelines recommend optimizing immunizations prior to SOT. We analyzed rates of vaccination for SOT candidates in a cohort of adult kidney and liver transplant recipients.

**Methods.** A retrospective chart review of adult kidney, kidney/pancreas (KP) and liver transplant recipients was conducted between 2014 and 2016. We calculated the rates of vaccinations of the following vaccines: pneumococcus, meningococcus, Hepatitis A and B, Haemophilus influenzae, type B, measles, mumps, rubella, polio, tetanus, diphtheria and pertussis.

**Results.** 300 patients were included (147 kidney, 14 KP, 139 liver). Liver recipients were older (mean age 53 vs. 50; P = 0.026) and less likely to have had a previous transplant (5.8% vs. 21.1%; P < 0.001) or a living donor (15.8% vs. 32.3%, P = 0.01).
Liver recipients were more likely to have been vaccinated against hepatitis A (106 [53.9%] vs. 28 [17.4%]; P < 0.001). Kidney and KP recipients were more likely to have received at least 1 dose of hepatitis B vaccine (138 [85.7%] vs. 28 [17.4%]; P < 0.001) or at least 1 dose of any of the pneumococcal vaccines (PSV23 94 [67.6%] vs. 92 [57.1%]; P = 0.062; PCV13 130 [80.7%] vs. 93 [66.9%]; P = 0.006; pneumococcal vaccine not clarified 47 [29.2%] vs. 14 [10.1%; P < 0.001). No difference was observed with regards to other vaccines (Table 1). Being a kidney transplant recipient increased the odds of getting at least 1 dose of hepatitis B, tetanus/ diphtheria/acellular pertussis (Tdap), measles, and pneumococcal vaccine (OR = 1.75, 95% CI [1.11–1.96], P = 0.008) were significantly associated with vaccine uptake. Smoking history negatively impacted vaccine uptake (Table 4). Patients who had received the influenza vaccine(s) were significantly associated with increased uptake of other vaccines (P < 0.001).

Conclusion. Despite guidelines, vaccination rates in SOT patients remain low at our institution. Factors associated with improved vaccination were institution-based PCP, pre-SOT PCP visits and receipt of influenza vaccines. A multidisciplinary approach is required for the optimization of vaccination rates in the SOT population.

Table 1: Characteristics of SOT recipients

Table 2: Vaccination status in SOT recipients

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