

Vaccination in the renal transplant recipient

General comments:

1. Approved, inactivated vaccines according to recommended schedules for the general population should be provided to all transplant recipients. HBV vaccination is preferably done prior to transplantation.
2. Live vaccines are to be avoided in renal transplant recipients. Varicella vaccination is recommended prior to transplantation in potential transplant recipients who are non immune
3. Vaccination (except for influenza vaccination) is to be avoided in the first 6 months after transplantation, when the degree of immunosuppression is likely to be low.
4. Influenza vaccination is recommended after at least one-month post transplant, prior to the onset of the annual influenza season
5. The role of Hepatitis B revaccination in transplant recipients is unclear. Transplant recipients who lack protective antibody titres (>10 IU/ml) should receive HBV vaccination. The immunogenic response to booster doses in transplant recipients will be less intense than in the general population.

List of vaccines for use in transplant recipients

Vaccine	Mode or ACTIVE agent	Use in Tx recipients
Cholera	Heat Killed	Yes
Diphtheria Toxoid	Toxoid	Yes
Hepatitis A	Formalin inactivated	Yes
Hepatitis B	Hep BsAg protein	Yes
Human Papilloma virus	Recombinant protein	Yes
Immunoglobulin (pooled)	(Not a vaccine)	Yes
Influenza	Inactivated	Yes
Japanese encephalitis	Formalin inactivated	Yes
Panvax H1N1	Inactivated	Yes
Pertussis	Inactivated	Yes
Pneumovax	Capsular protein	Yes
Poliomyelitis (Salk)	Inactivated	Yes
Rabies	Inactivated	Yes
Tetanus	Toxoid	Yes
Typhoid	Killed	Yes
Measles	Live	No
Mumps	Live	No
Rubella	Live	No
Oral Polio vaccine (Sabin)	Live	No
Oral Typhoid vaccine (Typh-vax)	Live	No
Yellow fever	Live	No
Small pox	Live	No
Varicella	Live	No
BCG	Live	No
Intranasal influenza vaccine	Live	No

References

1. SJ Chadban et al. KHA-CARI guideline: KHA-CARI adaptation of the KDIGO Clinical Practice Guideline for the Care of Kidney Transplant Recipients. *Nephrology* 2012. 17: 204-214.
2. Kidney Disease: Improving Global Outcomes (KDIGO) Transplant Work Group. KDIGO clinical practice guidelines for the care of kidney transplant recipients. *Am J Transplant.* 2009;9(Suppl 3):S1-155