

Immunization Recommended for Healthcare Students and Students in Other High-Risk Occupational Programs

Disease	Vaccine(s)	Acronym	Indication	Recommended Doses
Tetanus Diphtheria Pertussis	Adacel Boostrix	Tdap	All healthcare students and students in other high-risk occupational programs.	No documented history of primary series, complete a primary series of 3 doses: - Day 0 4 to 8 weeks after first dose 6 to 12 months after second dose. Documented history of primary series: - Reinforcing dose of tetanus/diphtheria/pertussis vaccine every 10 years. No documented history of a dose of acellular pertussis vaccine as an adult: 1 dose of Tdap regardless of the interval since the last dose of tetanus containing vaccine.
Measles	MMR II Priorix	MMR	All post-secondary healthcare students: - Without documentation of 2 valid doses of measles-containing vaccine or without documented laboratory confirmed measles disease or serological evidence of measles immunity (measles IgG positive).¹ All other post-secondary students: Born in 1970 or later without documentation of 2 valid doses of measles-containing vaccine or without documented laboratory confirmed measles disease or serological evidence of measles immunity (measles IgG positive).¹	All post-secondary healthcare students: 2 doses of measles-containing vaccine after 12 months of age. - Follow recommended minimum intervals for the specific vaccine. All other post-secondary students born in 1970 or later: 2 doses of measles-containing vaccine after 12 months of age. - Follow recommended minimum intervals for the specific vaccine.
Mumps	MMR II Priorix	MMR	All post-secondary healthcare students: Without documentation of 2 valid doses of mumps-containing vaccine or without documented laboratory confirmed mumps disease.¹	All post-secondary healthcare students: 2 doses of mumps-containing vaccine after 12 months of age. - Follow recommended minimum intervals for the specific vaccine.

			- Positive mumps IgG serology is not an acceptable indicator of immunity. All other post-secondary students: Born in 1970 or later without documentation of 2 valid doses of mumps-containing vaccine or without documented laboratory confirmed mumps disease (positive mumps IgG serology is not an acceptable indicator of immunity).¹	All other post-secondary students born in 1970 or later: 2 doses of mumps-containing vaccine after 12 months of age. - Follow recommended minimum intervals for the specific vaccine.
Rubella	MMR II Priorix	MMR	Healthcare students: Without documentation of at least 1 dose of rubella-containing vaccine or serological evidence of immunity (rubella IgG positive) who have face-to-face contact with patients in health care facilities.¹	Healthcare Students: 1 dose of rubella-containing vaccine after 12 months of age. - Follow recommended minimum intervals for the specific vaccine.
Hepatitis B	Energix-B Recombivax HB	HBV	Health care students' eligibility for hepatitis B vaccine is based on an assessment of the student's reasonably anticipated risk of: - Exposure to blood/bloody body fluids or sharps in the course of their work and - Transmission of hepatitis B infection to individuals when performing procedures that expose the individual to blood/bloody body fluids. See: Hepatitis B Risk Assessment. See: Optional Considerations for Immunization. Pre-immunization serology Pre-immunization serology for previous hepatitis B infection is not indicated for all healthcare students. Serology (including anti-HBs, HBsAg and anti-HBc total) is indicated for the following high-risk populations with a high probability of past infection regardless of their immunization status:	Primary series standard schedule is: 3 doses spaced at 0, 1 and 6 months. When the second dose of vaccine has been delayed, give the third dose 5 months after second dose. Minimum intervals may be considered for individuals at high risk of hepatitis B infection. History of an alternative adolescent schedule is also acceptable: 2 doses of 1 mL hepatitis B vaccine given on day 0 and 6 months later. Refer to product monograph. Assess students who have received accelerated schedules of combined hepatitis A and B vaccine or hepatitis B vaccine using the minimum intervals outlined in the specific product monograph. Complete a series of hepatitis B vaccine to ensure immunity in students who have lab confirmation of positive anti-HBs without documentation of a complete series.

			- Healthcare students who have emigrated from a country where hepatitis B is endemic. - Healthcare students with lifestyle risks for infection. - Healthcare students who are a spouse, sexual or needle sharing partner of a person that is a hepatitis B case or chronic carrier. - Healthcare students who are a household contact of a person that is a hepatitis B case or chronic carrier. Post-immunization serology All healthcare students who qualify for hepatitis B immunization: - Send for serology 1-6 months after completion of series. - Complete post-immunization serology at time of assessment if not done within the recommended interval following immunization. - Once a positive antibody result is documented, no further serology recommended. Note: The following are serological markers of laboratory evidence of immunity or disease: - Positive anti-HBs - Positive anti-HBc - HBsAg positive/reactive For detailed information on interpretation of hepatitis B serological tests, refer to Alberta public health disease management guidelines: Hepatitis B-acute and chronic. See: Hepatitis B Virus Infection - High Endemic Geographic Areas. See: Hepatitis B Vaccine Recommendations Algorithm for Individuals Not at High-Risk of Past Infection.	Once a positive antibody result is documented, no further serology recommended.
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			See: Hepatitis B Vaccine Recommendations Algorithm for Individuals at High-Risk of Past Infection.	
Varicella	Varilix Varivax III	VZ	Healthcare students with none of the following: • Documented history of 2 valid doses of varicella-containing vaccine. • Laboratory evidence of immunity (varicella IgG positive). • Laboratory confirmation of varicella disease (positive varicella PCR/NAT swab results). • Physician diagnosed shingles disease (confirmed by physician office). • Self-reported history or physician diagnosed varicella disease in Canada prior to a routine immunization program: ○ In Alberta, prior to January 2001. ○ For start dates of other Canadian jurisdictions see the NACI Varicella Proof of Immunity -2015 Update.	• 2 doses of varicella vaccine with a minimum interval of 6 weeks between doses. • Shingrix doses cannot be counted in a varicella vaccine series. • Individuals who received their first dose of varicella-containing vaccine and subsequently developed laboratory confirmed (positive varicella PCR/NAT swab results) vaccine modified varicella disease do not require a second dose of varicella-containing vaccine.
Influenza	Note: Annual influenza vaccine(s) may vary from year to year as determined and provided by Primary and Preventative Health Services	FLU	All post-secondary students	1 dose annually
COVID-19	Available COVID-19 vaccine may vary as determined and provided by Primary and Preventative Health Services.	COVID-19	All post-secondary students	See vaccine specific biological pages.

Polio	Imovax Polio	IPV	Healthcare students in healthcare settings: - Complete a primary series as they present and receive a single lifetime reinforcing dose. This includes: - Laboratory students handling specimens that may contain poliovirus - Healthcare students who may be exposed to patients excreting wild or vaccine strains of poliovirus (contact with stool, fecal matter or pharyngeal secretions).	No documented primary series: - Dose 1: day 0 - Dose 2: 4 to 8 weeks - Dose 3: 6 to 12 months after second dose. Documentation of primary series: 1 reinforcing dose at 18 years of age or older (at least 10 years after the primary series).
Meningococcal B	Bexsero	Men-B	Laboratory research, industrial and clinical laboratory students routinely exposed to N. meningitidis. - Includes only those students involved in conducting subculture identification, susceptibility testing, serological and/or molecular characterization and deep freeze for storage. - Laboratory students who only do initial specimen plants are not eligible.	Eligible laboratory students: 2 doses with minimum 4 weeks between doses. - The need for a reinforcing dose has not been established.
Meningococcal	Menactra Menveo Nimenrix	MenC-ACYW	Laboratory research, industrial and clinical laboratory students routinely exposed to N. meningitidis. - Includes only those students involved in conducting subculture identification, susceptibility testing, serological and/or molecular characterization and deep freeze for storage. - Laboratory students who only do initial specimen plants are not eligible.	Eligible laboratory students: 1 dose. - Booster dose every 5 years if risk continues. There is no data currently on the use of meningococcal conjugate quadrivalent vaccine in individuals 56 years of age and older. Off license use of this vaccine is recommended by AH with the expectation of similar increased immune response and local reaction rates compared to meningococcal polysaccharide vaccine.

Typhoid	Typherix Typhim Vi	TYVI	Laboratory students who regularly manipulate Salmonella typhi.	Eligible laboratory students: 1 primary dose. - Reinforcing dose every 2 to 3 years for students if risk continues.
Tuberculosis	Tubersol	PPD	The purpose of baseline tuberculin skin test (TST) for healthcare students on enrolment is to establish baseline² Mycobacterium tuberculosis (TB) infection status in those individuals at risk for potential occupational exposure to an infectious case. Healthcare students for the purposes of TB screening includes students entering programs for roles as outlined in the program notes' definition of HCW outlined in Tuberculin Purified Protein Derivative (PPD) (Mantoux) Biological Page. The TST is recommended for healthcare students on enrolment (except those with a history of active TB disease or a history of a prior significant TST) as follows: - Those with undocumented prior TST results.³ - Those without history of prior TST (do not recall having received a TST before). Note: TST is not recommended if the HCS has a documented non-significant baseline TST⁴ in the past (no time limit) and no subsequent high-risk TB exposures.⁵	Single baseline TST, unless there is a history of active TB disease or documentation of a previous positive/significant TST.⁶ The TST must be read 48-72 hours later by a qualified provider, not self-read.⁷
Rabies	Imovax Rabies RabAvert	RAB	Students attending a post-secondary institution and enrolled in a veterinarian, veterinary health technician or veterinary assistant program.	No history of a primary series: - Complete a pre-exposure intradermal⁸ (ID) series of 3 doses: - day 0 - day 7 - day 21 or 28 Post-immunization: - Rabies antibody serology is recommended 2 weeks after the third dose to ensure an

				acceptable level of protection has been achieved. • Rabies antibody serology is recommended every 2 years to determine immunity for students at continued risk of rabies exposure. • Rabies antibody serology is recommended every 6 months to determine immunity for student research lab workers working with live rabies virus at risk of inapparent exposure. Reinforcing dose: Rabies antibody serology should be done first, and a reinforcing dose given only if level is below that recommended for protection. Post-exposure prophylaxis: Consult public health for specific information.
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¹ In general, serological testing to determine immunity to measles, mumps or rubella is not necessary or recommended and should not routinely be done for those who lack documentation of previous immunization.

² Healthcare students who may be working in healthcare facilities either during their training or on completion of their program should receive a baseline TST.

³ Individuals who give a history of blistering TST reaction should not receive a TST. Individuals with history of undocumented positive TST reaction (other than blistering) can receive a TST. If these individuals decline the baseline TST, they do require a baseline chest X-ray within the past 3 months (Calgary) or in the past 6 months (all other areas) through their family physician.

⁴ Or documented negative IGRA. In the context of healthcare program student screening, a negative IGRA result could be considered interchangeable with a non-significant TST.

⁵ Defined as travel to a TB endemic country, see the post travel section of Tuberculin Purified Protein Derivative (PPD) (Mantoux) Biological Page., or confirmed contact with a person with infectious active TB.

⁶ Students with a history of active TB or positive/significant TST should have a chest X-ray through their family physician.

⁷ Self-reading of TST is not an acceptable practice and should not be allowed under any circumstances.

⁸ The ID route should not be used for students who are immune compromised, taking steroids or on chloroquine.